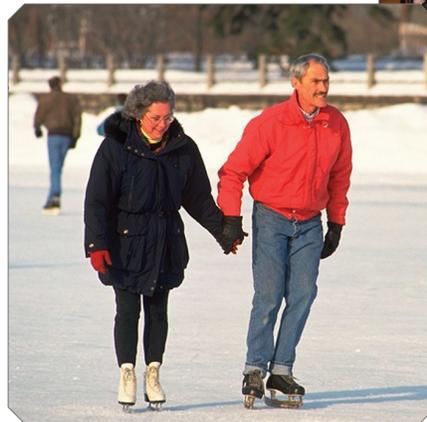




RECREATION NOVA SCOTIA

Connecting Seniors to Active Living Project – Final Report



Supported by
Nova Scotia Department of Seniors
Nova Scotia Department of Health Promotion & Protection
Physical Activity, Sport and Recreation

Researched by
Alison Bursey, MA

May 2007



RECREATION NOVA SCOTIA

***Connecting Seniors to Active Living Project
– Final Report***

‘Laying the groundwork for improving active living and physical activity levels of older adults in Nova Scotia.’

Supported by
Nova Scotia Department of Seniors
Nova Scotia Department of Health Promotion & Protection
Physical Activity, Sport and Recreation

Researched by
Alison Bursey, MA

May 2007

Table of Contents

Summary	1
Background Information	2
Section 1: Evaluation Phase	3
Literature and Resource Material Review	4
Internet Web Sites Review	10
Section 2: Needs Assessment Phase	12
Survey Analysis & Findings	13
Focus Groups Analysis & Findings	36
Section 3: Next Steps	52
Major Findings	53
Recommendations	57
Conclusion	60
References Cited	61
Appendix 1 Journal Articles	62
Appendix 2 Recommended Resources	88
Text Books & Manuals	89
Programs & Resource Kits	91
Videos & DVDs	94
Electronic Downloadable File Resource List	97
Appendix 3 Recommended Internet Web sites	103
Appendix 4 Survey Questions	111
Appendix 5 Demographic Information: Survey Respondents	120
Appendix 6 Focus Group Questions	122

Summary

Active living and physical activity are paramount to seniors' health and well-being. Numerous studies maintain the relationship between the use of regular physical activity and improvement in overall quality of aging and health. An active lifestyle has been linked to the prevention or delay of many chronic diseases and disabilities. Despite the benefits, only 30% of Nova Scotia citizens over the age of 65 years are moderately active (i.e. 30-15 plus minutes of exercise a day). This percentage continues to decline with age and, as a result, older adults face increased risk of mobility loss, functional capacity and, most importantly, independence.

Connecting Seniors to Active Living Project is the combined effort of *Recreation Nova Scotia*, *Nova Scotia Department of Health Promotion & Protection* and the *Nova Scotia Department of Seniors* (see note below). This project represents a commitment to the first steps toward improving active living and physical activity levels of older adults in Nova Scotia.

Project activities included:

- Compiling and evaluating active living and physical activity evidenced based resource material and internet web sites intended to build the capacity of seniors, practitioners and community leaders to increase healthy active aging. The project established a list of recommended resource materials and web sites. In addition, a list of successful components of physical activity interventions and programs for older adults based on a review of evidenced based literature was created;
- A needs assessment process that included a survey and a series of focus groups to help project funders to understand seniors, practitioners and community leader's capacity building needs to increase active living opportunities and physical activity levels among older adults in Nova Scotia and verify the need for a resource clearinghouse; and
- The development of a set of recommendations based on project findings. The recommendations attempt to address the identified gaps and suggest more effective means to increase active living opportunities and physical activity levels for older adults in Nova Scotia.

NOTE: Nova Scotia Department of Seniors and Nova Scotia Seniors' Secretariat

On September 10, 2007, Premier Rodney MacDonald announced the creation of a new Department of Seniors.

The Senior's Secretariat, the committee of government ministers that coordinates government services and programs for seniors, remains intact and will continue to be chaired by Minister Bolivar-Getson.

This committee of ministers will now be supported by the new department led by Deputy Minister Rosalind Penfound.

Background Information

The initial proposal for the *Connecting Seniors to Active Living Project* began late in 2005 after joint consultations between Recreation Nova Scotia (RNS), the Nova Scotia Department of Health Promotion & Protection (NSHPP), the Nova Scotia Seniors' Secretariat (NSSS) and various stake holders identified a need to raise awareness around the importance of healthy active aging and create initiatives to increase active living and physical activity opportunities for older adults. As a result of these earlier discussions between the organizations and stakeholders RNS, the leader organization, developed the project proposal. In December 2006 the project's proposal and functions were finalized and a research consultant was hired. Work began on the project in January 2007 and the project functions were completed in May 2007.

The purpose and functions of the *Connecting Seniors to Active Living Project* were:

- To research and gather active living and physical activity information, literature, resources and internet web sites to build the capacity of seniors, practitioners and community leaders to increase healthy active aging;
- To evaluate the effectiveness of compiled tools and resource material;
- To administer a survey to help understand seniors, practitioners and community leader's capacity building needs to increase active living opportunities and physical activity levels among older adults in Nova Scotia;
- To conduct a series of seven focus groups across the province to help understand older adult's program, information and resource needs for healthy active aging in Nova Scotia;
- To verify the need for a resource clearinghouse; and
- To develop recommendations on existing gaps, and ways resources can be better coordinated and more effective to increase active living opportunities and physical activity levels for older adults in Nova Scotia.

This final report is divided into three separate sections. Each section deals with a phase of the Connecting Seniors to Active Living Project. The information is presented in the following layout:

- *Section One* focuses on the *Evaluation Phase* of the project. During this phase a comprehensive review of the literature, web sites, resources and tools regarding physical activity and older adults was evaluated for specific content and inclusion criteria.
- *Section Two* presents *Needs Assessment Phase* of the project. The analysis and findings from the survey and the focus groups are offered in this section.
- *Section Three* addresses the next steps and recommendations based on the evaluation phase and needs assessment stages of the project.

Section 1: Evaluation Phase

Literature, Resource Material & Web Site Review

Literature and Resource Material Review

Methodology for Literature Search & Review

A comprehensive overview of existing literature was undertaken to identify evidenced-based literature and resources. Journal articles were assessed for the type and effectiveness of the intervention, location and major findings. Six inclusion criteria questions were used when evaluating the creditability of tools and resource materials:

1. What is the name of the author(s) or the creator of the resource?
2. Is the author(s) or the creator of the resource professionally qualified to develop the resource?
3. What are the key topics or subject areas covered by the resource?
4. Is the content proven for effectiveness and supported by evidence-based research?
5. Does the resource provide references for information cited?
6. What is the format (type) of the resource?

The key word categories used in the literature and resource material search and review included:

- Older Adults/Senior
- Active Living/Physical Activity/Exercise
- Capacity Building
- Best practice: refers to policies, programs and practices that are in keeping with the best possible current evidence about what works and why.
- Education/Training/Strategies/Intervention/Model
- Resources/Tools/Guidelines/Internet-based/Systems

The limitations used in database searches were: LA = English and YR = 2000+. Special attention was also given to resources considered significant to the field of study in the last 10 years.

The following databases were used in the literature search for resources:

- *Leisure Tourism Database*. The database has information on all aspects of leisure, tourism, recreation and hospitality. The database provides access to over 75,000 research abstracts from the last 30 years.
- *MEDLINE*. MEDLINE, produced by the U.S. National Library of Medicine (NLM) is one of the major sources for biomedical literature materials. MEDLINE corresponds to three printed indexes: Index Medicus, Index to Dental Literature, and International Nursing Index. 1966-Present.
- *PubMed*. PubMed, a service of the National Library of Medicine, provides access to over 11 million citations from MEDLINE and additional life science journals.
- *American Psychological Association's PsycINFO®*. PsycINFO is a comprehensive international database. It covers the academic, research and practice literature in psychology from over 45 countries in more than 30 languages. PsycINFO includes relevant materials from related disciplines such as medicine, psychiatry, education, social work, law, criminology, social science, and organizational behaviour. 1887 – Present.
- *Cochrane Library*. Cochrane consists of four main databases: The Cochrane Database of Systematic Reviews, The Database of Abstracts of Reviews of Effectiveness, The Cochrane Controlled Trials Register and The Cochrane Review Methodology Database.

- *Educational Resources Information Center (ERIC)*. ERIC is a database of educational materials collected by the Educational Resources Information Center of the U.S. Department of Education. All records in ERIC include informative abstracts. 1966-Present.

Results of Literature Review

Inactivity Among Older Adults in Canada

Numerous research studies and policies maintain the relationship between the use of regular physical activity and improvement in overall quality of aging. Conversely, chronic inactivity is associated with negative health outcomes. Hooker (2002, p. 355) found the longer older adults remain inactive and participate in a sedentary lifestyle the more likely they are to experience accelerated losses in physical fitness, health and function that will eventually lead to the following:

1. Render them more dependent on care from others;
2. Put them at higher risk for several chronic conditions and debilitating diseases;
3. Make them less likely to pursue leisure-time physical activity; and
4. Increase their likelihood of consuming larger amounts of health & primary care resources and expense.

Health Canada (2002, p. 3) reports segments of the older adult population are particularly vulnerable to reduced levels of participation and encounter more barriers to physical activity than others in the same age category. They are:

- Older adults with low incomes or low education levels;
- Older adults 75 years and over;
- Older adults living in institutions;
- Older adults with illness, disabilities or chronic diseases;
- Female older adults. Infrequent participation in physical activity is higher in this age bracket for women than it is for men. Women tend to be involved in forms of activities, careers and lifestyles that require less exertion than men do; and
- Older adults considered isolated due to location or lack of social support networks are profoundly at risk.

The most recent edition of the National Advisory Council on Aging publication, *Seniors in Canada Report Card 2006* maintains the majority of older adults in Canada are inactive (less than 15 minutes of moderate exercise or <1.5 KKD/day). This inactive trend has changed very little among seniors since the last publication of the *Report Card* in 2001, even though ample research supports that regular participation in physical activity improves overall quality of life in old age seniors remain inactive. The rate of inactivity among seniors in 2005 was 62%. The rate of inactivity among males actually increased from 53% to 55% between 2000-01 and 2005. The rate of inactivity for females in 2005 was even higher at 67%. This trend of inactivity increases even more as women age. Over three quarters of women aged 75 years and older were considered inactive in 2005 (2006, p.11).

Nova Scotia's rate of inactivity is bleak. The province is ranked third highest in Canada for the level of inactivity found in adults 65 years and over. Nova Scotia has a rate of 70%; this is considerably higher than the national average at 50.4%. The rate of inactivity among males is 64.4% while the rate for females in this age bracket is 74% (NS Department. of Health 2005, p.2). Clearly a more structured focus needs to take place to improve physical activity levels and break this sedentary trend of older

adults in Nova Scotia

The *Seniors Report Card 2006* highlights that this lack of physical activity is the result of many factors and barriers encountered by seniors who may want to be more active. In many cases physical activity is simply not incorporated into day-to-day living due to a lack of awareness around its importance in later life, or due to ageist attitudes that still negate its relevance. To help address this inactive lifestyle the National Advisory Council on Aging (2006, p13) suggests that the following priorities for action aimed at improving the health of older adults as it relates to physical activity should be adopted:

- Improve chronic disease management (e.g. self management and community supports to adopt healthier lifestyles);
- Improve personal health practices (e.g. regular physical activity and healthy eating);
- Strengthen prevention programs for falls and injuries.

Physical activity for older adults is not a new component of both government and non-government policy statements and commitments in Canada. The goals of the *Pan Canadian Integrated: Healthy Living Strategy* adopted in 2005 are to improve overall health outcomes and to reduce health disparities. The physical activity goal indicated in the strategy is:

- By 2015, increase by 20% the proportion of Canadians who participate in regular physical activity based on 30 minutes/day of moderate to vigorous activity as measured by the CCHS and the Physical Activity Benchmarks/Monitoring Program (Government of Canada, 2005, p. 10).

In 1999, the Active Living Coalition for Older Adults released the document *Moving Through the Years: A Blueprint for Action for Active Living and Older Adults*. The Blueprint for Action presents guiding principles, and identifies priority goals:

- Increase public awareness about the benefits of active living;
- Develop competent leaders in active living who can meet the needs and interests of the older adult;
- Support and encourage seniors' desire to embrace an active lifestyle by ensuring that resources and social supports are in place;
- Strengthen delivery systems and improve levels of cooperation, coordination and communication among interested organizations;
- Encourage and enable older adults to advocate for a quality of life that includes physical activity, well-being and opportunities for active living;
- Identify, support and share research priorities and results; and
- Continually monitor and evaluate programs, services and outcomes (ALCOA 1999, p.5).

Future directions may need to be developed since much of what was suggested in both of these documents still remains unaccomplished and underdeveloped. Community-based physical activity coalition action plans or a provincial physical activity strategy similar to that which was developed for children and youth in this province may be needed to achieve the above mentioned goals and targets for increased physical activity among older adults.

Effectiveness of Interventions for Increasing Physical Activity Among Older Adults

The search strategy identified 64 journal articles. *Appendix 1* represents literature regarding interventions and program models that were examined. It should be noted that very little of the evidenced based literature found concentrated on *how to develop the capacity of professionals or practitioners working with older adults*. Instead much of the relevant research in this area of investigation focuses on the effectiveness of the intervention or program implemented. Below is an overview of the literature and what was revealed in this segment of the review.

Examples of interventions included:

- Group and individual exercise classes and programs (i.e. tai chi, golf, tennis, yoga, water-based, strength, resistance, agility, mobility and flexibility building exercise training models);
- Community-based gardens and horticultural programs;
- Individual or group walking programs;
- Physical activity prescription issued by physician (e.g. Green Prescription or PACE counseling);
- Access to recreational facility and transportation;
- Supervised home-based provision of equipment and exercise;
- Fall prevention interventions with multiple program components;
- Mixture of community classes supplemented by supervised home-based exercise;
- Use of behavioural strategies such as goal setting, reinforcement, self-monitoring, problem solving, feedback, relapse prevention and social support (i.e. buddy system); and
- Lifestyle modification or multiple component intervention (i.e. diet, exercise class, stress management, individual and group psychosocial support).

The successful interventions included some of the following components:

- Education and health promotion campaigns focusing on the benefits of physical activity and a well balanced diet;
- Exercise counselling and instruction;
- Progressive stages of exercise intensity;
- Structured class or group-based physical activity sessions;
- Home-based physical activities, particularly walking, strength-based and stretching;
- Telephone and written contact as a form of support;
- Computer-generated feedback and messages;
- Informal group meetings and special events;
- Comprehensive injury prevention system for monitoring and ensuring participant safety;
- Self-monitoring exercise log books and or charting progress for participants to view; and
- Training and education sessions for professionals, non-professionals (i.e. volunteers) working on the method of intervention.

Other noteworthy changes identified over and above increased physical activity levels included such health improvements as:

- Increased fruit and vegetable intake (Many interventions integrated lifestyle modification that focused on better eating habits);
- Reduction of depressive symptoms;
- Reduced stress and anxiety related conditions;
- Enhanced psychological health;
- Improved neuropsychological performance;
- Reduction of the onset of Type II diabetes in high risk population;

- Favorable effects on dyspnea (shortness of breath);
- Improved cardiovascular and respiratory functioning;
- Reduction in the incidence of high blood pressure and cholesterol level (particularly in those who were hypertensive and/or had above normal cholesterol levels);
- Increased muscle strength, coordination, joint function and flexibility;
- Reduced fracture risk factors by improving bone density;
- Reduced falling and fear of falling;
- Reduction of back pain and other painful problematic symptoms;
- Improved subjective sleep quality;
- Increased social interactions and support network;
- Increased self-care abilities;
- Increased autonomy and feelings of independence;
- Increased self-perceived energy levels; and
- An overall improved sense of well being and quality of life.

The geographic locations of the interventions or programs were:

- | | |
|---|----------------|
| ▪ United States | ▪ Netherlands |
| ▪ Canada | ▪ Sweden |
| ▪ United Kingdom (i.e. England, Ireland, Wales) | ▪ South Africa |
| ▪ France | ▪ Australia |
| ▪ Belgium | ▪ New Zealand |
| ▪ Denmark | ▪ Japan |
| ▪ Switzerland | ▪ China |
| | ▪ Taiwan |

Generally, a review of the evidenced-based academic literature on physical activity interventions among older adults from the last 5 years suggests the following:

1. An abundance of solid evidence exists to support the relationship between the use of regular physical activity and improvement in overall quality of life and healthy aging;
2. Interventions targeted toward adults aged 65 years and older are effective in producing short-term changes in physical activity. It should be noted that most interventions tended to be short-term, from 8 weeks to 26 months;
3. There is limited evidence that interventions targeted toward adults aged 65 years and older are effective in producing mid to long-term changes (5 -10 years) in physical activity and lifestyle change. Only a few evaluation research studies compiled followed-up information or tracked participants for an assessment of the long-term (5-10 years) effects of the intervention;
4. A range of intervention strategies are associated with increases in physical activity with no one approach identified as consistently and significantly superior. It is important to note that most successful interventions included multiple intervention modalities (i.e. diet & nutrition counseling, individual or group physical activity exercise classes, face to face or telephone supports, follow up and risk assessments);
5. Interventions that used *individual-based* or *group-based behavioural* components with a combination of group and home-based exercise sessions appeared to be equally effective in producing changes in physical activity;
6. Interventions that provided support (mainly via telephone) and follow-up were associated with changes in physical activity levels over longer periods of time; and
7. While technological innovations such as using the Internet and email as means of communication may reduce effort and cost, the effectiveness requires more investigation.

Other important factors cited by Health Canada (2002, p. 4) as influencing the success of physical activity interventions for older adults include:

- Responding to the diverse nature and needs of an older adult population;
- Considering the various types of approaches and models to determine which one is most appropriate for the given situation (e.g. one-on-one intervention, group interventions, lifestyle approach, social infusion model);
- Identifying and addressing barriers to participation, including motivational factors and accessibility (e.g. transportation, location, cost);
- Ongoing evaluation of interventions and evaluation of past interventions to identify “what works and what doesn’t” in a specific geographic area;
- Involving older adults in the development and implementation of interventions;
- Establishing contact with key health professionals, care agencies and community organizations that can refer seniors or encourage their participation;
- Creating awareness of the program among its intended clientele; and
- Working in the long term – ensuring program sustainability or the ongoing participation of seniors in the program.

A review of the evidence by Edwards & Mawani (2006 p. 28) found that policies and practices to encourage and enable physical activity among older adults in both community and institutional settings should have the following characteristics:

- Use of multi-pronged approaches that incorporate education and awareness raising, community-based initiatives and home-based interventions;
- Focus on and evaluate solutions-oriented changes in physical activity and environments;
- Promote positive, safe and inclusive environments, minimize barriers and increase choices and opportunities to participate in age- and activity-friendly environments;
- Increase efforts to involve older adults with disabilities and chronic illnesses in appropriate physical activity. This requires a stronger role by health professionals;
- Adopt the Pan-Canadian targets for increasing physical activity levels and reducing inactivity among seniors in different age groups and put mechanisms in place to achieve these targets; and
- Stress the mental and social as well as the physical benefits of increased physical activity in later life and the association of physical activity with maintaining health over the years.

Best Practices in Health Promotion Communication

The *Integrated Pan-Canadian Healthy Living Strategy* (2005) proposes that successful health promotion and communication campaigns tend to find an optimal balance between intensity and length of exposure. Since people vary in their timing and willingness to respond to a message, “the more times it (the message) is made available and in different forms, the more likely they (audiences) are to hear/see it when they are ready to attend to it” (Hornik, 2002). In other words, successful campaigns are not just a matter of the right messages delivered to the right audiences; they are also a result of the right levels of frequency over the time messages are delivered.

The *Integrated Pan-Canadian Healthy Living Strategy* (2005, p. 55) recommends the following:

- Messages should provide positive, motivational, clear, quick, easy, inexpensive, and tasty/fun ways (including self-assessments and how-to tips) to integrate adequate levels of active living into daily life. Proposed ways should demonstrate a wide range of benefits, and come from credible sources and include "real" people facing the same kinds of issues as the key audiences.

Results of the Resource Material & Tools Review

Seventy-eight various format types of resources and tools were evaluated for content. Sixty were recommended as resources for this project. In general most information sources evaluated were considered quality resources that incorporated evidence or previous evaluation work on physical activity interventions to establish key principles, features and subject matter. Very few resources were published by authors who did not have the education or qualifications to develop the material. Resource material was excluded if it did not attempt to follow the minimum guidelines established by ISAPA.

Appendix 2 represents the results of the resources and tools gathered using the search strategy. The list of recommended resources & tools is not *all-inclusive*. Instead it is a reasonably comprehensive selection of quality and/or evidenced-based resources that have been reviewed regarding their relevance and usefulness for professionals and community leaders involved in implementing active living and physical activity programs or interventions targeted toward older adult populations. The information resources are categorized according to following format types:

- *Text books and Manuals*
- *Programs and Resource Kits*
- *Videos and DVDs*
- *Internet Electronic Downloadable Files*

Internet Web Sites Review

Methodology for the Internet Web site Search and Review

The search and review of internet web sites was conducted between January and February 2007. The key word categories used in the web site exploration were:

- Older Adults/Senior
- Active Living/Physical Activity/Exercise
- Capacity Building
- Education/Training/Strategies/Interventions/Models/Internet and
- Resources/Tools/Guidelines

The internet search engines and meta-searchers employed in the investigation of web sites used *Google, AltaVista, Yahoo, Dogpile* and *Metacrawler*. The following seven inclusion criteria measures were applied to the evaluation of the internet web sites:

1. Is the author or organization that developed the content for the site published on the web site?
2. From what type of domain does the web site originate?
(i.e., educational, non-profit, commercial or government)

3. Does the web site page provide references for page content?
4. What are the relevant subject areas covered by the web site?
5. Is the primary purpose of the web site informational or advertising?
6. Is the information published on the web site current?
(i.e., has the site been updated in the last 3 years?)
7. Overall does the web site function without errors or missing links?

Results of the Web Site Review

Internet-based Physical Activity Interventions

The Internet is a promising new channel for the distribution of health promotion interventions and programs because of the advantages related to reaching a wide variety of people all at once and at any time or location. Information and communication technologies (particularly websites and e-mail) have the potential to deliver health behavior change programs to large numbers of adults at a low cost (Ferney & Marshall 2006). Very few studies exist around the effectiveness of online internet interventions to increase physical activity. However, what does exist tends to be positive with the limitations highlighted.

A Study by Ferney & Marshall (2006, p. 560) on the use of web site physical activity interventions discovered preferences were expressed for websites that included simple interactive features together with information on local community activity opportunities. Particular suggestions included online community notice boards, personalized progress charts, e-mail access to expert advice and access to information on specific local physical activity facilities and services. It was also suggested that website physical activity interventions could include personally relevant interactive and environmentally focused features and services identified through a user-centered development process.

The use of the internet coupled with face to face contact appears to be more effective at reaching the public and targeted populations. Steele, Mummery & Dwyer's (2007) research on internet-based physical behaviour programs supports the use of the internet in terms of content satisfaction and usability; however, issues were raised regarding the acceptability of an internet-based program when traditional face-to-face delivery options are available. Spittaels & De Bourdeaudhuij (2006) found that distributing flyers combined with a short face-to-face contact, increased the number of visitors compared with distributed flyers without contact.

Appendix 3 represents the results of internet web sites compiled using the search strategy. The recommended list of internet web sites is sorted into two categories:

- Web sites focusing *specifically* on promoting and providing resources on older adults and physical activity; and
- Web sites that *dedicate a segment* of the site for promoting and providing resources on older adults and physical activity.

Section 2: Needs Assessment Phase

Survey and Focus Group Analysis & Findings

Survey Analysis & Findings

Survey Methodology

Recreation Nova Scotia, Nova Scotia Seniors' Secretariat, and Nova Scotia Department of Health Promotion & Protection conducted a survey to gather information about seniors' program, information, and resource needs for healthy active aging. The survey was administered online and by mail to participants across the province during February and March 2007. A cover letter explaining the *Connecting Seniors to Active Living Project* and an invitation to participate in the survey as well as other project activities (a series of focus groups) were included in the e-mail message and mail out. Please see *Appendix 4* for a copy of the survey questions.

The sample group ($N=133$) consisted of: recreational employees; members of seniors' organizations and clubs; provincial government employees; members of the academic community; health promotion practitioners; community group representatives; provincial group/association representatives; volunteers; and fitness instructors. A demographic profile of the respondents is contained in *Appendix 5*.

Survey Results

To simplify data presentation, the questions and the findings appear in the same order as they did in the survey. The figures found inside the brackets [i.e. ($N=5$)] represent the number of responses used in the analysis of the sample group for each question.

Quantitative data from the surveys were coded numerically and entered into an *Excel* spreadsheet program. Percentages were obtained from the coded responses. All percentages have been rounded to the nearest decimal point and data presented using a bar chart format.

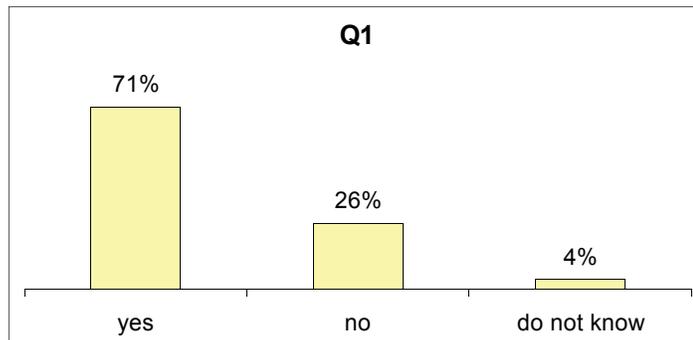
The qualitative data collected from the open ended questions were coded using a simple category system of key words and concepts. Recurrent themes and patterns emerged from the key words and concepts and were sorted for similarities and differences in responses. Italicized font in text boxes represents direct quotes or 'the voices' of the survey respondents.

Active Living and Physical Activity Opportunities for Older Adults

Question 1

Do you or your organization have any programs, services, resources and/or infrastructure (e.g., trails) designed to provide active living and physical activity opportunities for older adults?

A large portion (71%) of the respondents indicated they had services, resources and/or infrastructure designed to provide active living and physical activity opportunities for older adults.



($N=133$)

The following *activities, programs, services, resources and infrastructure* were identified when participants were asked provide a brief description (N=76).

***The figures found inside the brackets [i.e. (f=5)] represent the frequency, or number of times survey respondents made reference to a particular word grouping or theme.*

Walking (f=31)

- ⇒ Walking as an activity
- ⇒ Indoor walking track
- ⇒ Walking programs in public schools after hours
- ⇒ Walking programs in malls
- ⇒ Outdoor guided walking programs
- ⇒ Group and individual walking clinics

Seniors' Organizations and Club Activities (f=17)

- ⇒ Regular meetings
- ⇒ Wellness Days or Active Healthy Living Days
- ⇒ Crafts
- ⇒ Board games (e.g. crokinole)
- ⇒ Dances
- ⇒ Socials, picnics, barbeques, pot lucks
- ⇒ Leisure hour (e.g. washer toss, ball toss, darts)
- ⇒ Card parties
- ⇒ Group bus trips

Seniors'/Elder Fitness or Aerobic Classes (f=16)

Swimming (f=15)

- ⇒ Senior swimming programs
- ⇒ Scheduled pool time and lanes for seniors
- ⇒ Aquatics programs and classes

Trails (f=14)

- ⇒ Outdoor walking trails
- ⇒ Hiking trails directory
- ⇒ Mapping trails

Seniors Games (f=14)

Special Seniors' Classes (f=13)

- ⇒ Yoga
- ⇒ Tai Chi
- ⇒ Stability ball
- ⇒ Weight or strength based training
- ⇒ Fall prevention

Bowling (f=11)

- ⇒ Bowling leagues
- ⇒ Outdoor bowling
- ⇒ Carpet bowling
- ⇒ Special ramps and adaptive equipment made available at the bowling alleys for seniors or persons with disabilities

Dances and Dance classes (f=8)

- ⇒ Ball room dancing
- ⇒ Line dancing
- ⇒ Square dancing

Infrastructure Development (f=5)

- ⇒ Active transportation routes and infrastructure development
- ⇒ Converting old railroad beds into walking trails
- ⇒ Sidewalk development and snow removal program
- ⇒ Boardwalk development for wheelchair use

Funding-program grants (f=6)

- ⇒ Federal Grants (i.e. New Horizons, Veterans Affairs)
- ⇒ Municipal grants
- ⇒ CHB Wellness funds and grants
- ⇒ Recreation Association funding opportunities
- ⇒ Recreation Department funding opportunities

Resources/Facilities (f=10)

- ⇒ Local recreation departments
- ⇒ Local libraries
- ⇒ Community centres/halls
- ⇒ Church halls
- ⇒ Recreation centres
- ⇒ Senior/pensioner centres
- ⇒ Public use of school gym and fitness equipment
- ⇒ Physiotherapy clinics and services
- ⇒ Personal trainers certified to work with seniors

Curling (f=4)

- ⇒ Seniors' curling clubs
- ⇒ Curling club equipment designed for persons with disabilities

Skating (f=4)

Miscellaneous Activities (f=9)

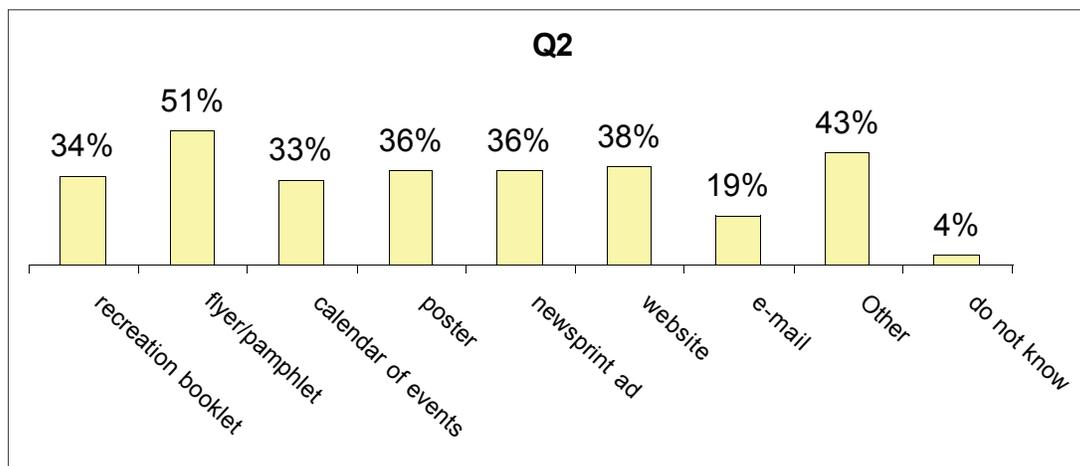
- ⇒ Cutting wood
- ⇒ Badminton
- ⇒ Biking
- ⇒ Fishing
- ⇒ Hunting
- ⇒ Gardening
- ⇒ Golfing
- ⇒ Snow shoe equipment loans
- ⇒ Tennis

Specifically, the following programs, services, and facilities were listed by participants.

- Acadia University's Centre for Lifestyle Studies
- Arthritis Society
- Atlantic Seniors' Ski Program
- Be Fit Program offered at Acadia University
- Better Breathers Program at the Annapolis Valley District Health Authority
- Bike Again sponsored by the Association of Doctors for Active Transportation
- Cardiac Rehabilitation Program at the Valley Regional Hospital
- Chose to Move
- Diabetic Exercise Program at the Valley Regional Hospital
- Elder aerobics/Elderfit programs offered by the YMCA
- Falls Prevention Coalition
- Fit Folks in Shelburne
- Fitness and Community Centres (i.e. YMCA Dalplex in Halifax, Sportsplex in Dartmouth, Northwood Community Centre)
- Get Strong Classes
- Go for Green
- Kieran Pathways Society (active transportation organization)
- On the Move (VON)
- Platypus Mett Inc. (Centennial Pool in Truro)
- Private gyms (i.e. Nubodys, Curves, Take 30)
- Rails to Trails Program in St. Margaret's Bay
- Senior Safe Driving Program
- Seniors' LINCS Physiotherapy Program in the Annapolis Valley District Health Authority
- Streetlines Architectural Services
- Taoist Tai Chi Society

Question 2

How do you or your organization let older adults know about these active living and physical activity opportunities?



(N=80)

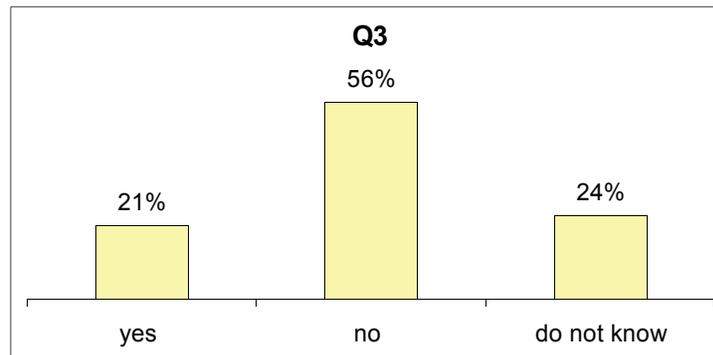
*Please note that in this question, the totals can add up to more than 100% because respondents were requested to check all that applied.

Over half the participants (51%) used paper flyers or pamphlets to let older adults know about active living and physical activity opportunities. The *other forms of communication* (43%) specified by respondents were: (N=44)

- Word of mouth (f=7)
- Telephone calls (f=6)
- Church bulletins (f=5)
- Direct mail out to members (f=5)
- Media coverage and press releases (f=5)
- Regular seniors' club meetings (f=3)
- In person networking or attending events with other partnering agencies (f=3)
- Provide the information directly to a list of local seniors' social clubs and groups. (f=3)
- Local community cable channel
- Active living fairs
- Public presentations and workshops
- Through contact from the government at all 3 levels (i.e. local, provincial and federal)
- Research and internship opportunities

Question 3

Does your community/organization maintain a separate list of the active living and physical activity opportunities targeted towards older adults?



(N=115)

Only a small portion of respondents (21%) were able to identify if their community or organization maintained a separate list of active living and physical activity opportunities targeting older adults. More than half (56%) could not provide any information and the remainder (24%) did not know how to acquire this information.

Twenty participants who completed the survey were able to provide the project with information on the active living and physical activity opportunities targeting older adults in their community or organization.

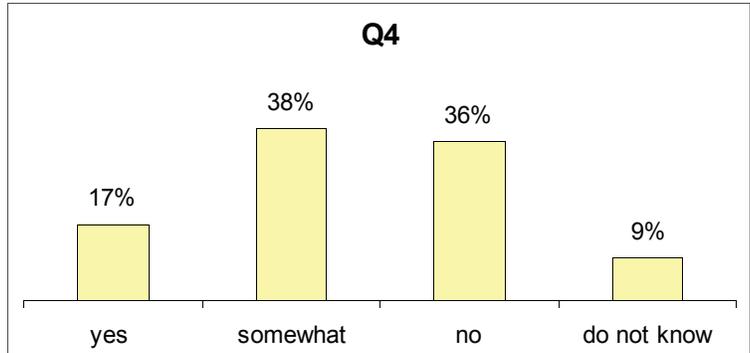
Questions 4 and 5 yielded similar results from participants. Almost equal portions of respondents believe the needs of older adults are either *somewhat* or *not adequately* met when it comes to the type and number of active living and physical activity opportunities available in their community. (N=107)

The following is a synopsis of the comments provided by participants with regard to the type and number of active living and physical activity opportunities available in their community. (N=106)

- Lack of transportation limits the type and number of opportunities available to older adults.
- Population size and geographic location limits the type and number of opportunities available to older adults.
- Older adults would participate if more information was distributed on what is available in the community.
- Individual financial constraints often limit the participation of older adults in existing opportunities in the community regardless of the type or number offered.
- There is limited availability of programs and certified trainers for older adults in both rural and urban settings. However, the availability and lack of trainers is more pronounced in rural areas.

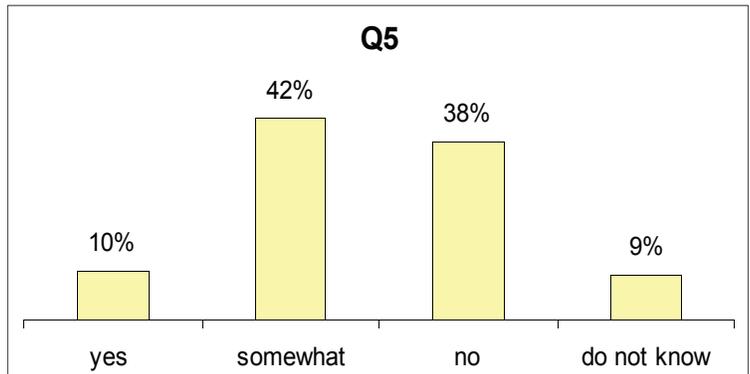
Question 4

In your opinion, do the type of active living and physical activity opportunities available to older adults in your community adequately meet the needs of this population?



Question 5

In your opinion, do the number of active living and physical activity opportunities available to older adults in your community adequately meet the needs of this population?



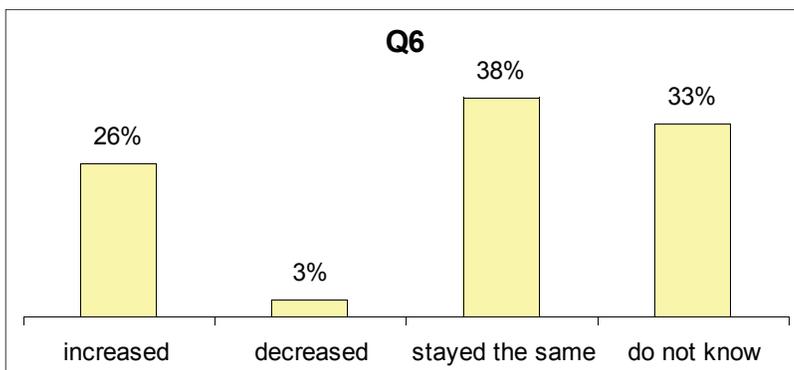
- The time of day and the time of year need to be taken into consideration when scheduling programs, services and events for older adults. In particular, participants sited winter as the time of year when older adults do not participate as often in active living and physical activity opportunities in their community because of fear of falling or lack of snow removal.
- Participants felt very few active living and physical activity opportunities focus on reaching older adults who are isolated, disabled, frail, or chronically ill and that this area should be addressed.
- Alternatively, other respondents expressed the opinion that various programs are available if people want to participate. It depends on the individual and whether or not they choose to engage in an active lifestyle.
- A few respondents suggested that if a particular activity or opportunity was not available it could be requested; that local recreation departments/associations would help develop the activity if enough people were interested.
- Many respondents disclosed that more planning and development of active living and physical activity opportunities for older adults were required because of the forecasted aging population.

Question 6

Please complete the following statement, by indicating if the number of active living and physical activity opportunities for older adults in your community, over the past 12 months, has....

Most respondents indicated they thought that active living and physical activity opportunities for older adults stayed the same (38%) or that they did not know if they had changed.

Although participants did not report seeing a substantial growth in opportunities for older adults they did provide many favourable comments about how they did see change in their community.



(N=101)

Since last year the number of seniors in our fitness class has improved and yoga class is up as well.

We have increased the number of 'Over 40' fitness classes from 4 to 6 classes. There is a senior's weight lifting workshop that is new.

Several new walking venues or trails have been opened by the Municipality in the past 2 years.

Subsidize the training of Senior's Fitness leaders/instructors through community development grants and NSPP Physical Activity Grants because several new fitness groups have started. Also, a traveling Falls Prevention Clinic is in the process of being developed.

More activities have occurred since we took part in the Heart and Stroke program.

We are working with 'active' seniors (volunteers) to bring 'inactive' seniors to the club to help more seniors become active.

We are seeing an increase in our attendance at 55+ games and the Lifeplex Wellness Centre in the Cornwallis community that has just opened seems to be bringing out a lot of 'new faces'.

The number of activities has increased mainly because an exercise program was funded by the Department of Health which led to a continuation of an exercise group by some of the seniors.

Other topics noted by participants in the comments section included: (N=45)

- An increase in funding from government bodies has led to a growth in the activities made available for older adults in some communities;
- Funding envelopes that provide assistance with the cost of hiring an instructor or for volunteer training were cited by participants as having an impact on the type and number of opportunities the community was able to offer;
- Health promotion projects educating older adults about the importance of physical activity have helped establish active living opportunities for older adults and have motivated some community leaders to set up new programs;
- Building new facilities has created more opportunities for people to be physically active;

Question 6 comments continued...

- Seniors' clubs stated, as memberships and recruitment for members increase so do the activities the seniors' clubs are able to provide. As new members join, the 'wants and needs' of the group changes; and
- Some participants did not feel they could accurately evaluate whether a change had occurred in the available active living and physical activity opportunities for older adults in their community.

Our seniors' club has been actively promoting new ideas and drawing new members in, so our activities have increased.

The opportunities have to increase as the population ages. The seniors that are 'up and coming' are a lot more vocal than the seniors of yesterday. New members tend to be more demanding and less satisfied with what little is offered.

We would need more resources to do more. We are limited by resources and people because of our location.

As far as I know nothing has changed for at least a number of years.

Some have shut down and I do not know why.

Our organization covers the province as a whole so we have no way of knowing whose programs start up and then disappear.

We have a new elder aerobics class 3 times a week.

A new Tai Chi classes is available for seniors.

Those who were defined as obese have been able to shed weight and some of them are exercising regularly (After the Heart and Stroke program 2 years ago).

Getting funding for the Intergenerational Exchange Program initiated by Pioneer Seniors' Club - The program has increased active living and physical activity opportunities for seniors and youth. Our story made the local newspaper and media more than once.

Seniors continue to increase in number. Such activities as the senior public skate that is now offered is an excellent venue for exercise and social interaction.

Question 7

Please identify any accomplishments you have had when trying to increase active living opportunities and physical activity levels among older adults in your community.

Participants listed the following ***accomplishments*** regarding their efforts to increase active living opportunities and physical activity levels among older adults in the community: (N=65)

- Offering new fitness classes and programs (e.g. Over 40 fitness, 55 plus fitness classes, Walk The Halls Program, Walk and Report Elderfit, Elder Aerobics, Senior Handyman Program, Intergenerational Exchange Program, Senior Drop In Program);

- Opening new fitness centres or facilities and providing equipment in areas that previously did not have them (e.g. workout equipment in seniors' complex);
- Offering new physical activity opportunities (e.g. walking club/program, adult skating times, kayaking program);
- Obtaining a reliable certified fitness instructor who is able to 'communicate well' with older adults;
- Assisting individuals to obtain training and certification to work with older adults;

Accomplishments continued...

- Sharing knowledge and working with partnering agencies/stakeholders to increase opportunities for older adults to be physically active;
- Empowering older adults to be more active and witnessing the changes in those who have improvements in both physical and psychological health;
- Teaching older adults new physical activities (e.g. stability ball, strength and weight training);
- Providing older adults opportunities that are enjoyable both physically and socially;
- Offering fitness classes and other active living opportunities to older adults at a reduced cost;
- Obtaining or providing funding from government bodies to seniors' clubs and groups;
- Getting more seniors participating and volunteering with annual Seniors' Games and sending individuals to Seniors' Games at the national level for competition; and
- Increasing recruitment and membership with seniors' club or group.

The participants in my fitness classes have returned to my class or moved on to more challenging fitness venues. Most participants feel the value of active living once they try it on. I have helped to facilitate/encourage fitness leaders to specialize in the needs of older adults.

Many seniors have enjoyed the social aspect, have fun and are learning new skills (i.e. stability ball, resistance training, etc.) and proudly tell me of accomplishments in their healthy goals.

We have had an impact on other organizations (within the Fall Prevention Coalitions) to offer programs, work together to increase the number of programs and to focus on fitness efforts that will help seniors avoid falls.

My shining moment was when one older lady told us that previously, when she needed things from bottom cabinets she would stack cans, use them to support her weight, and get on her knees. With the exercise program she was now able to, slowly, get onto her knees (without the cans) and shift her weight to get back up. Imagine if those cans had toppled!

All participants have been pleased to see that they did benefit from the exercise classes led by the nurses in conjunction with the Department of Health. It resulted in many wanting to continue with another exercise program.

Our local seniors' games committee is active and there is good participation in all the games and activities.

Most seniors want fitness classes in their own community. They are either not willing to travel too far or they do not have the financial means to travel.

A lot of seniors prefer to have classes in the mornings, but most of our instructors are not available until after 6 pm. Some instructors are concerned with liability issues when dealing with the older adult since there seem to be more health concerns among this population.

Many are disabled by arthritis and exercise has become quite painful. It is difficult to inspire when the person is in pain.

Grants and funding are limited for recreational equipment and facilities. Also, getting enough seniors to register to make an event happen and try new things. Then getting them to travel to facilities outside of the town and then the fees must be low!

The biggest challenges are a need for more equipment and finding qualified instructors to run the events and programs.

Question 8

Please identify any challenges you have encountered when trying to increase active living opportunities and physical activity levels among older adults in your community.

The list below outlines the *challenges* respondents encountered when trying to increase active living opportunities and physical activity levels among older adults in their community: (N=73)

- Transportation;
- Physical limitations or health problems;
- Keeping the cost down so it is affordable for older adults;
- Lack of facilities and equipment;

Challenges continued...

- Shortage of reliable and qualified instructors/leaders/volunteers;
- Limited funding options for recreation equipment and facilities;
- Lack of personal motivation to be physically active;
- Consistency in funding difficult to achieve;
- Participant attendance sometimes poor;
- Limited funding options for 'residents in care' for supporting or developing physical activity programs;

The instructor who agreed to teach the exercise class kept finding excuses not to come so we cancelled it.

Trying to convince people to take part in fitness regardless of their disabilities. It is hard to get to frail isolated seniors in the community.

It is hard to motivate some seniors that have never been active to get out and get moving.

Not being able to encourage older adults who have never been active to begin.

Some programs that were offered as a result of the falls prevention coalition efforts have not been able to maintain consistent funding.

In care residents have no funding for such programs.

Consistency: I believe that it is a challenge to keep people interested in attending the same programs. Not to mention many participants prefer to stay at the beginner level of a program rather than attempt to go to the next level. Applying for funding can be challenging.

Not enough interest to keep senior classes going. Getting the word out to senior populace who really need to be active to start and getting the seniors out of their cozy routines. It is very difficult to reach those seniors who we think are in the greatest need.

Trying to get the government involved and cooperation between municipal, provincial, and federal representatives.

The negative mindsets of seniors towards exercise. Today's seniors grew up in an environment where physical labour as part of their jobs provided adequate exercise. They did not grow up with exercise as a recreational activity. Even if gyms, seniors' exercise classes and the like were available, many seniors do not drive and do not want to 'trouble' their younger friends and relatives into driving them to an organized exercise activity.

We had to let everyone know either by telephone or we had to let the media know about our program to advertise and we did this all with volunteers.

If the health care system were able to offer more prevention programs we might not have the costs associated with rehabilitation programs like physiotherapy and occupational therapy as the senior loses mobility and becomes inactive.

- It is difficult to motivate older adults who have never participated in a lifestyle that incorporates physical activity;
- It is difficult to reach the population of older adults who are frail/disabled and largely isolated in their homes;
- Misinformation and beliefs that physical activity is not important in the aging process;
- Winter prevents many older adults from participating in regular programming due to fear of falling, transportation issues, and poor driving conditions;
- Seniors' clubs and volunteer based agencies indicate they have had some difficulty letting older adults know about physical activity opportunities offered and around applying for funding initiatives; and
- Frustration with the present health care system that focuses very little on prevention programs.

Question 9

What more could be done to increase active living opportunities and physical activity levels among older adults?

Responses were solutions based and offered the following suggestions to increase active living opportunities and physical activity levels among older adults: (N=72)

- Introduce by-laws that require developers to provide green space, sidewalks and opportunities for physical activity within planned development;
- Develop an infrastructure for fitness (e.g. active transportation, trails, sidewalks, sidewalk/trail snow removal and regular maintenance);
- More certified instructors and trained volunteer resources;
- Funding to help support community leaders to be certified as seniors' program instructors;
- More funding opportunities for the development of programs, classes, resources, and equipment purchase from the provincial level;
- Offer sustainable funding for programs and opportunities for older adults to participate in an active lifestyle;
- Minimal fee structure for older adults on a fixed income;
- Provide more education and training opportunities for stakeholders (i.e. workshops);
- An income tax credit for money spent on physical activity fees;
- Increased health promotion regarding the importance of physical activity for healthy, positive aging. In particular, it was suggested that family physicians and other health professionals should encourage older adults to be more active;
- Boost public awareness; let people know what is available for older adults in their communities regarding active living opportunities;

Much more infrastructure! New by-laws when new development comes up, forcing developers and the city to implement green space before parking, and big stores.

Perhaps our focus should be more on infrastructure and community facilities that are for everyone rather than focusing on youth or seniors. In every sub-division in every large city and every small town there should be at least one community centre for their area which caters to everyone from the youth to the aged.

Keep the streets and sidewalks in better shape. Winter maintenance is a joke; most pedestrian areas are not taken care of.

Swimming and aquasize is great for seniors. Where are smaller sized pools with 30 degree Celsius water? Provide more amenities.

We need more trained physical activity leaders that can lead fitness opportunities in community halls and take walking excursions several times per month in the spring/summer/fall time period.

Funding to help support new leaders to get certified as seniors' program instructors.

Sustainable funding for the opportunities that are created.

Ensure that seniors are involved with the 'assessment' part of the planning process so as to ensure that what is being offered is what is wanted; ensure that any programs or initiatives that are developed are based on best practice & that qualified instructors are leading the programs; evaluation needs to be built right into the initiatives to determine which ones are working & which ones are not

Consult with older adults to determine their needs. They are the experts on their own lives and situations.

We need things for seniors in their homes who are shut-ins and the disabled. Maybe it they could create programs that partner with the VON and housing authority, etc.

Have local service providers give us free or low cost days at the YMCA, Fitness Centre, Bowling Lanes, Mariners Center, etc. to hold special events.

More programs seniors can do in their own homes. This would require up-front training or mentorship and the occasional check-ins. More variety of programs to meet the different needs of seniors.

Awareness on local programs could be provided by doctors or nurses since most seniors see their primary care providers on a regular basis.

If doctors or other health professionals prescribed an increase in daily physical activity for their patients, then they (seniors) may realize the importance and commit to a change in lifestyle.

What more could be done continued...

More senior friendly active opportunities and provide transportation to these events or try to hold them locally.

Make the programs more local maybe by using church halls in the area.

Have more dedicated senior community centres, and advertise community programs for older adults widely so that family members can also engage/encourage their relatives/spouses in these programs.

Put aging facts in front of them. Continually encourage them to remain active. Target 'acceptance' and remind them that they are never alone.

Having (exercise classes) in conjunction with a wellness clinic (e.g. blood pressure, sugar levels, footcare, etc.). Maybe a doctor or nurse practitioner once a month. Having a medical person available to advise on the benefits of exercise and monitor condition.

I would like to see the provincial government contribute to projects to improve the lifestyle and well-being of our seniors as they are the ones that we have to look after and not just disregard.

Create local recreational groups for seniors to discuss and make decision on activities.

I would think that a permanent government program where local seniors' clubs are provided with long term subsidies for developing and maintaining activities for seniors.

- Develop new methods of communicating with older adults who are isolated in the community. Have solutions in place to deal with barriers to participating in physical activity opportunities (i.e. home based programs, subsidized classes for those with low incomes, assistance with equipment purchase);
- Encouragement from family and friends to participate in an active lifestyle;
- Provide opportunities for older adults close to their community or provide assistance with the transportation (i.e. organize car pools with active seniors as the drivers);
- Offer more sustainable funding, programs and opportunities for older adults to participate in an active lifestyle;
- Take the time of day and season into account when developing new programs and services. Make the opportunities “senior friendly”; and
- Include older adults in the consultation process to determine what they need and want for active living and physical activity opportunities.

Information Needs

Question 10

What types of tools, programs, services and resources are you or your organization presently using to help support the development of active living and physical activity opportunities for older adults in your community?

Participants identified the following *endeavours* and *actions* as demonstrating support for the development of active living and physical activity opportunities for older adults in their community: (N= 67)

- ⇒ Keeping walking trails, parks, and sidewalks well maintained all year long;
- ⇒ Using all the tools and resources available in recreation centres, seniors' centres, community centres or fitness facilities;

endeavours and actions continued...

- ⇒ Promoting active living in the community via information campaigns through workshops and letters;
- ⇒ Provide fitness leadership opportunities for individuals who want to be trained to conduct older adult fitness groups;
- ⇒ Offering programs, classes and activities for older adults;
- ⇒ Sending seniors' club/organization members to attend or take part in physical opportunities in our community, provincially and on a national basis;
- ⇒ Arranging and coordinating reduced rates for older adults at local fitness centres and community centre programming;
- ⇒ Having the Seniors' club regularly host Wellness Days and/or bring in guest speakers related to healthy promotion and active living;
- ⇒ Having good quality exercise tapes and music systems for fitness classes;
- ⇒ Incorporating injury prevention into programs offered;
- ⇒ Providing recommendations to retail stores and institutions for making their premises accessible and affordable;
- ⇒ Architectural modifications, installation of lifts, elevators, barrier-free washrooms, work spaces, improved lighting, landscaping for accessibility for users of wheelchairs or other mobility devices;
- ⇒ Having a suitable location (e.g. seniors' centre, community centre, fitness centre, church hall, community hall);
- ⇒ Having volunteers who are reliable and trained;
- ⇒ The skills of a certified instructor who can make exercise fun and fulfilling along with the social aspect;
- ⇒ Being able to use local recreation departments/associations for support (e.g. staff, funding, facilities, networking abilities etc...)
- ⇒ Secure funding;
- ⇒ Funding from municipal, town, provincial, federal governments;
- ⇒ Grants from CHB Wellness Funds and District Health Authorities;
- ⇒ Attaining financial sponsorship from local businesses and the corporate sector;
- ⇒ Hosting opportunities for physical activity among older adults (e.g., dances, darts, cards, senior games, skating, bus trips, bowling nights, fitness classes, trail development, etc...);
- ⇒ Developing a *Physical Activity Strategy* for the community or area; and
- ⇒ Having local media (e.g. cable, radio, newsletters, newspaper) airing public service announcements (PSAs) about activities available to older adults.

Question 10 continued

Specific tools, programs, services and resources highlighted by respondents as being used to support the development of active living and physical activity opportunities for older adults in their community were:

- Coalition for Active Living
- CARP
- Arthritis Society
- Chebucto Links
- Club 400
- Community Links
- Falls Prevention Tool Kit
- Health Canada's *Guide for Physical Activity and Older Adults*
- Heart & Stroke Foundation
- *New Horizons for Seniors Program* through Human Resources and Social Development Canada;
- Northwood Seniors Complex and their web site
- Nova Scotia 55+ Games and holding the games at zone, region and provincial levels
- Nova Scotia Community College
- Nova Scotia Health Promotion and Protection's Physical Activity Grants
- Recreation Nova Scotia
- Royal Canadian Legion use of their facilities for activities and grant money
- SAY GO with Alberta Public Health
- Seniors Secretariat web site and their *Programs for Seniors Guide*
- *The Next Phase: Retirement Planning for Older Adults with Developmental Disabilities* funded by the Public Health Agency of Canada;
- VON SMART Program
- YMCA/YWCA Elderfit Program

Question 11

Where do you or your organization obtain information about developing, supporting, or promoting active living and physical activity opportunities for older adults? If possible, please provide the name of web site(s) or resource(s) that you have found to be useful?

Question 12

How do you or your organization stay up to date on current "best practice" information about active living and physical activities for older adults? (e.g., programs, research, policies, etc.)

Please note: The data gathered from *questions 11 and 12* has been collated due to the similarities in responses gathered from the survey respondents or because respondents indicated they had already answered in question 11.

Respondents provided a variety of responses to these questions. A small portion of participants who answered the question indicated: *they did not know; they had never tried to look; they were not in a position to respond to this question; or the question was not applicable to their situation.*

The following is a summary of information sources or locations participants reported they had obtained information about developing, supporting, or promoting and staying up-to-date on "best practices" on active living and physical activity opportunities for older adults: (*N= 61*)

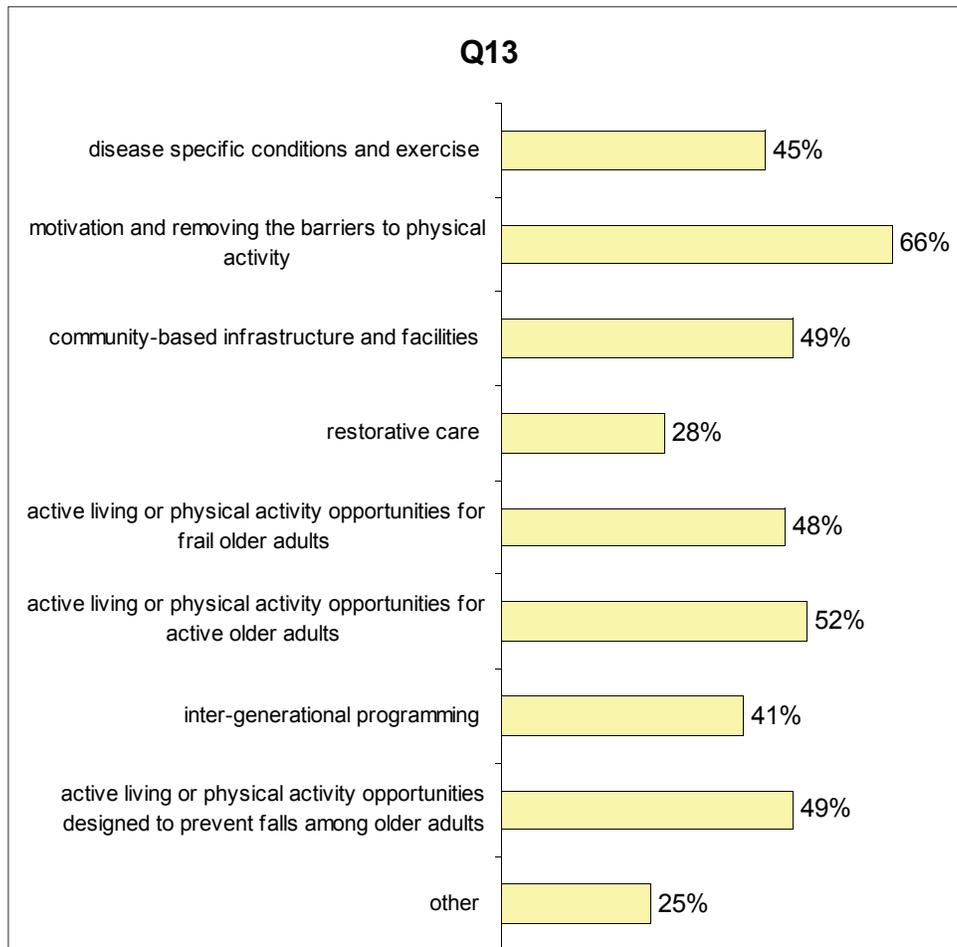
- from other municipalities
- local recreation or leisure departments/associations
- other nursing homes
- brochures provided by various organizations and societies
- Nova Scotia's Seniors' Yearly Assembly
- members of our senior club or from other seniors' clubs/organizations
- recreation programs booklets and flyers
- church bulletins
- magazines
- email bulletins and list-serves
- research and journals articles
- newspapers
- books
- television
- web search
- attending workshops and conferences
- consulting with other seniors
- friends and family

In particular respondents listed the following as places where they obtain information:

- ⇒ 50+ Expo
- ⇒ Acadia University
- ⇒ American Council on Exercise
- ⇒ Arthritis Society
- ⇒ Canadian Association of Occupational Therapy web site (www.otworks.ca)
- ⇒ Canadian Centre for Activity and Aging web site (www.uwo.ca/actage)
- ⇒ Canadian Health Network web site (www.canadian-health-network.ca)
- ⇒ Canadian Parks and Recreation Association web site (www.cpra.ca)
- ⇒ Canadian Society for Exercise Physiology
- ⇒ Canadian Volkssport Federation web site (www.walks.ca) and the Dartmouth Volksmarch Club web site (www.dartmouthvolksmarchclub.com)
- ⇒ CARP
- ⇒ CARP Magazine
- ⇒ Chebucto Links
- ⇒ Club 400
- ⇒ Coalition for Active Living
- ⇒ Community Health Board
- ⇒ Community Links web site (www.nscommunitylinks.ca)
- ⇒ Cornwallis River Pathways Society
- ⇒ Dalhousie University
- ⇒ District Health Authority
- ⇒ Falls Prevention Coalition and Tool Kit web site (www.nscommunitylinks.ca/preventfalls.php)
- ⇒ GANS
- ⇒ Geriatric Rounds at the QEII
- ⇒ Go For Green
- ⇒ Goldtimes Magazine
- ⇒ Group of IX
- ⇒ Health Promotion Clearinghouse web site (www.hpclearinghouse.ca) and e-mail bulletins
- ⇒ Heart & Stroke Foundation
- ⇒ Indo-Canadian Seniors Group
- ⇒ Intergenerational Exchange Program
- ⇒ Journal of Epidemiology and Community Health
- ⇒ Local VON branch
- ⇒ National Fitness Leaders Alliance
- ⇒ National Strength and Conditioning Association
- ⇒ Northwood Seniors' Complex and their web site
- ⇒ Nova Scotia 55+ Games web site (www.novascotiaseniorgames.com)
- ⇒ Nova Scotia Community Colleges
- ⇒ Nova Scotia Department of Community Services
- ⇒ Nova Scotia Fitness Association Canadian Fitness Professionals
- ⇒ Nova Scotia Health Promotion and Protection-Physical Activity Sport and Recreation Division
- ⇒ Nova Scotia Recreation Professionals in Health web site (www.nsrph.com)
- ⇒ Nubodys
- ⇒ Public Health Agency of Canada publications and web site
- ⇒ Recreation Facility Association of Nova Scotia
- ⇒ Recreation Nova Scotia
- ⇒ Royal Canadian Legion
- ⇒ Search the internet
- ⇒ Seniors Outreach Program
- ⇒ Seniors' Secretariat
- ⇒ Sport Nova Scotia
- ⇒ Stable Able and Strong: Tools for Living-Program by the Canadian Association of Occupational Therapists
- ⇒ Taoist Tai Chi Society
- ⇒ Valley Seniors Fitness Network
- ⇒ Veterans Affairs
- ⇒ VON SMART Program
- ⇒ YMCA/YWCA

Question 13

Do you have any specific program or resource information needs?



(N=83) *Please note: In this question, the totals can add up to more than 100%.

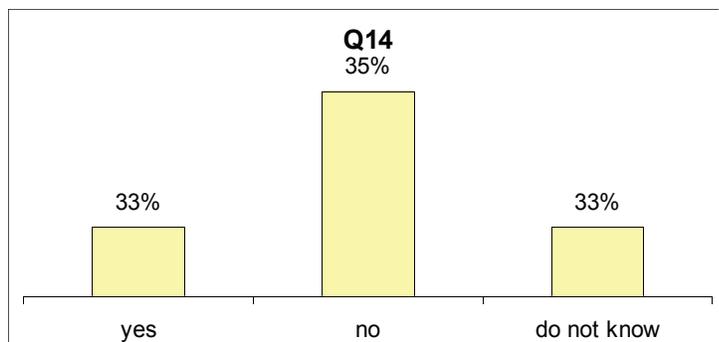
Other information needs highlighted by participants in the comments section were:

- strength and weight resistance training;
- removing the stigma attached to using assistive devices;
- architectural devices for independent living;
- health promotion and nutritional resources; and
- home care exercise programs.

Question 14

Is there a sufficient amount of information available to you or your organization on active living and physical activity for older adults in Nova Scotia?

Thirty-five percent (35%) reported there is not sufficient information available. Respondents almost evenly split as (33%) reported there is a sufficient amount of information available on active living and physical activity opportunities for older adults. (N= 92)



Question 14 continued...

Participants provided the following comments on the *amount of information available* on active living and physical activity for older adults: (N=23)

Resources are great it is to have but you have the time to search out the information. We live in a world where there can be information overload. Provide us with a top 10 list of senior fitness resources.

I'm learning more each time I meet with the senior fitness leader coordinator.

I am interested in data collection around the province. I wish that all fitness programs were collecting simple data and sharing their results!

We can always use more information but we had no trouble finding data to support our plans.

A lot of our information is obtained by word of mouth such as locations of where activities are put on for seniors, especially if they are put on by church groups but are still open to the public.

I personally do not look for this information.

We may have to go looking for it, but I know it is out there.

The information is there if you look hard for it - not everyone is so inclined.

Delighted to find that your survey will be put to good use and hopefully give us some feedback such as the recommendations that may evolve from survey analysis.

We need more for the 'whole' family including extended family that may live with grandchildren etc. Also could school programs to have contact with seniors in the community and long-term care?

Information sessions should be provided to all seniors and more education made available.

We would be appreciative of any and or all information made available.

We would like to receive more information.

We would appreciate a guest speaker list and more information about opportunities in the area.

- Offering too much information can be overwhelming and time consuming to review and evaluate;
- When older adults attend active living and physical activity opportunities in the community they also learn more about healthy active aging;
- Participants want more information offered to them on active living and physical activity opportunities for older adults;
- Sharing information and communicating with other community leaders and older adults who are interested in increasing physical activity levels is useful;
- Information is available if you look for it. Not all participants had searched for information on the topic before so they were unaware if it was lacking;
- Sometimes 'word of mouth' is the best source of information; and
- Provide information on intergenerational and family focused physical activity opportunities.

Question 15

Please identify how you or your organization would prefer to access or receive information about active living and physical activities for older adults.

The survey respondent's preferences for accessing or receiving information about active living and physical activity opportunities for older adults were: (N=88)

- ⇒ **First choice** resource clearinghouse (e.g. internet web-based resource that collects, organizes and shares information and resources on specific topics)
- ⇒ **Second choice** by mail
- ⇒ **Third choice** training and workshops
- ⇒ **Fourth choice** e-mail list-serve
- ⇒ **Fifth choice** library of resources for loan (e.g., Books, Video/Audio tapes, CD/DVD, Program Manuals)
- ⇒ **Sixth choice** toll-free information line

I'd like to have a list of everyone who is interested in the Active Seniors Project please! If we knew who we are, we could talk.

We like to get as much information as possible for the seniors.

Provide grant money to educate seniors.

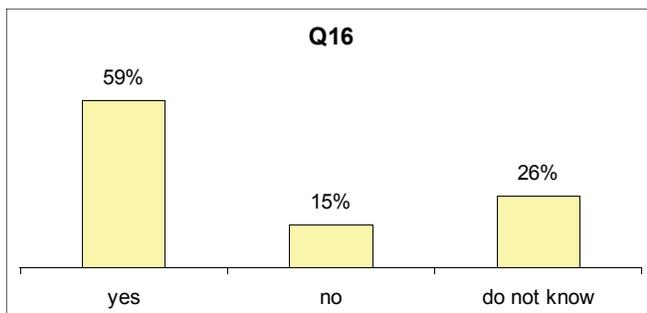
I personally do not have a computer but the source of information depends on ones own preference. I would think the best way would be to organize frequent workshops followed by a library of resources.

If a clearinghouse is used, folks need to be reminded of new additions or when new resources of relevance are added- as volunteers, we do not spend all day surfing!

I like to read on paper not the computer. I print off the information on paper from my computer although I put mail as my 6th choice. I still value it very much and after finding out information on the internet I often request that a paper version is mailed to me.

Question 16

Are you or your organization interested in participating in education and training sessions focusing on active living and physical activities for older adults?
(N=86)



Over half of respondents (59%) were interested in participating in education and training sessions on active living and physical activities for older adults, while some participants (26%) were undecided. Below is a summary of comments offered by participants on this subject: (N=21)

- A few participants stated they would be pleased to participate and wanted more information around how they could become involved if education and training sessions were developed;
- Training or education sessions could be offered at local seniors' clubs and organizations' joint meetings; and
- Financial assistance with travel was suggested if the education and training was held on a provincial level.

Question 17

Please identify how would you or your organization prefer to receive education and training about older adults and physical activity? (N=53)

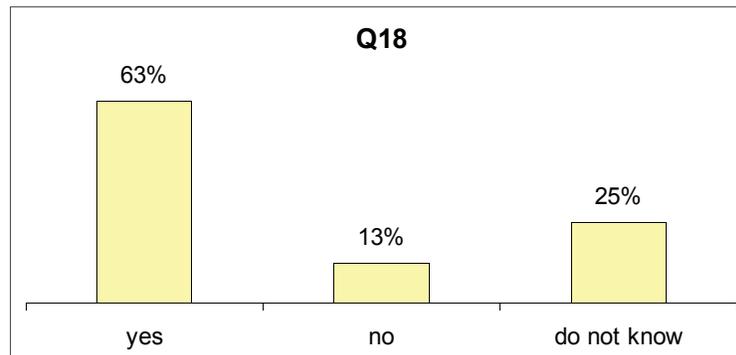
- ⇒ **First choice** regional workshops or presentations
- ⇒ **Second choice** regional lunch and learn sessions
- ⇒ **Third choice** online training or web based sessions
- ⇒ **Fourth choice** provincial conferences

Verifying the Need for a Resource Clearinghouse

Question 18

Do you feel there is a need for a resource clearinghouse?

* A resource clearinghouse is defined as a mechanism for collecting, organizing, sharing and disseminating information and resources on active living and physical activity opportunities for older adults.



(N=88)

Sixty-three percent of respondents (63%) favoured the development of a resource clearinghouse while only 13% did not feel there was a need. A small portion did not know if there was a need for a resource clearinghouse when similar resources could be adapted or new sections added. The comments section collected the following remarks with regard to a resource clearinghouse:

I don't know if there is a need to create a new resource clearinghouse. Why can't all of the active living resources be 'housed' with the Health Promotion Clearinghouse? The resources that would have been used to create a new one could then be used to support and expand a great one that is already in existence.

I think we could use existing health promotion clearinghouse with a section dedicated to seniors. There is no point in creating yet another clearinghouse.

This seems like a good idea but it needs the active participation of more than one person in a particular community.

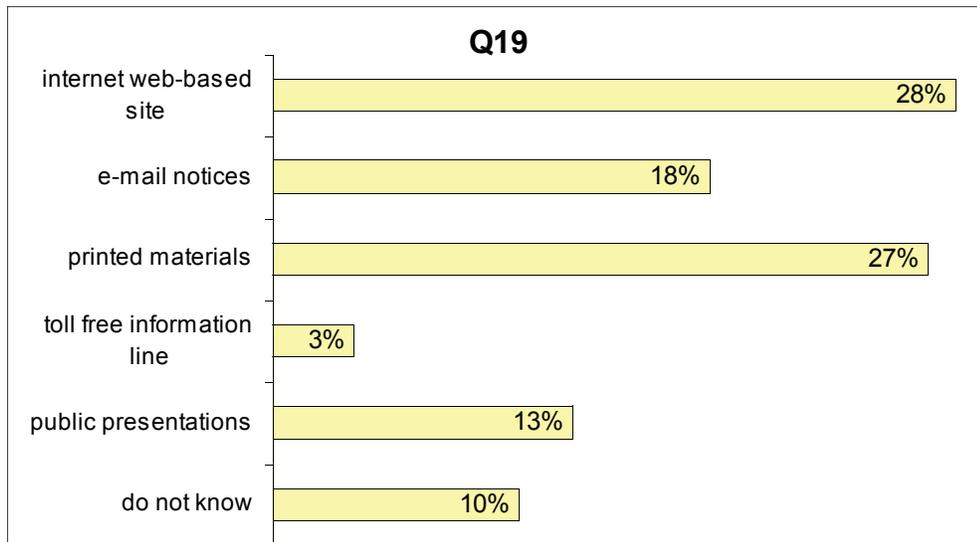
The more I think of it, the more I don't want a clearinghouse of any sort. There is probably enough printed and available material out there already available through other organizations already established.

The usefulness would depend on the content of material housed and funding to keep the information up-to-date.

A clearinghouse could perhaps help in discouraging negative media coverage on TV, in newspapers, magazines and books about older adults. Having positive written and photo interpretations of older adults would be a step forward. See this age group appearing as capable of exercise and active pursuits (volunteering), of looking good and dressing well and being emotionally/intellectually competent would be positive.

Question 19

How would you or your organization prefer to access *information* from a resource clearinghouse?



(N=88)

The top three preferred forms of accessing information from a resource clearinghouse were via an internet web-based site (28%), printed materials (27%) and e-mail notices (18%). Clearly having all options to access information was valued by participants. Participants made the following suggestions about how they preferred to access information: (N=14)

- Use both mail and public presentations to communicate with older adults since many seniors are not comfortable with the internet and do not have access;
- The internet works well to address the province entirely;
- Monthly e-bulletin would be helpful;
- Posters or other display materials would be helpful to have access to; and
- The concept of a clearinghouse should be promoted initially through public presentations.

I am a senior and I do not use computers so mail and meetings will have to do.

Once the concept of a clearinghouse has been introduced, the second phase will be to develop an internet based site;

Maybe a site that lets you read the handouts and shows you the Table of Contents of books or online clips of video presentations?

Nothing better than live public presentations if it is done well, just as it is more positive to see a great violinist play in public then to see them on TV, it is better to see a public presentation than to read it on the computer, read it in the newspaper, or hear about it on the telephone.

I appreciate the way that the Health Promotion Clearinghouse communicates - the web site is updated fairly often and electronic bulletins are sent out to members twice a month.

Question 20

The following features could be made available through a resource clearinghouse. Please identify the level of importance to you or your organization. (N=84)

The majority of participants felt the features suggested below were either *very important* or *important* to be offered through a resource clearinghouse. However, most respondents felt offering a toll free line was only *somewhat important* (29%).

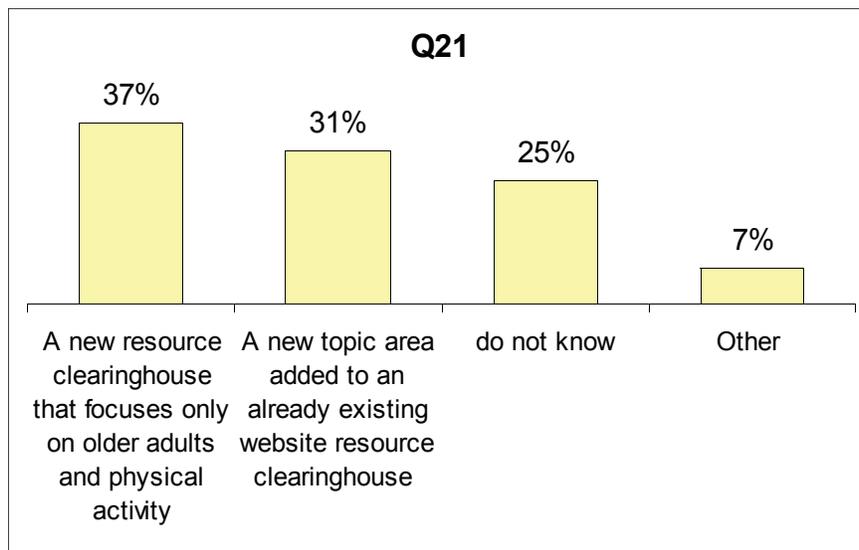
Suggested features of a resource clearinghouse	Very Important	Important	Somewhat Important	Not Important
Providing information on best practice information and evidence based interventions	<u>44%</u>	27%	14%	14%
Providing opportunities for sharing success stories and research findings	27%	<u>33%</u>	20%	19%
Providing a regional (or provincial) inventory of available programs, services, resources and infrastructures	<u>49%</u>	30%	12%	10%
Collecting, organizing, and disseminating information on education and training opportunities	<u>37%</u>	35%	18%	11%
Collecting, organizing, and disseminating information on funding opportunities	<u>50%</u>	30%	14%	6%
Collecting, organizing, and disseminating information on jobs and volunteer opportunities	15%	<u>33%</u>	29%	23%
Providing web site links to resources and resource people	27%	<u>40%</u>	12%	20%
Providing a resource lending library	20%	<u>32%</u>	30%	18%
Providing a provincial e-mail list-serve for networking and information sharing among practitioners	20%	<u>31%</u>	26%	23%
Offering a toll-free information line	18%	26%	<u>29%</u>	27%

The other comments that were offered by participants included: (N=22)

- Providing too much information can be overwhelming and therefore ignored. Often too little useful information, too much theory and jargon (i.e. like the words 'best practice'), too many accolades, or descriptions of action rather than action itself;
- A healthy diet should be considered as an adjunct to the performance of physical activity;
- Provide a 'tool box' that could be borrowed. Some respondents expressed they wanted to be able to evaluate the tools instead of having the information in a 'CD format' which requires information to be printed in order to read it and decide if it is worth trying;
- Make available a list of key informants in regional offices; and
- A few participants felt that one very important feature of the clearinghouse should be to attempt to address ageism in society. It was identified that something needs to be done about changing the attitudes of younger generations toward older people. The media tends to present older adults in poor physical condition, frail, poorly dressed, unattractive and hardly able to mumble a reply when spoken too. Instead the media should be viewing older adults as physically active, healthy, strong, well dressed, attractive and contributing members of society.

Question 21

If a resource clearinghouse was developed, how should it be structured?



(N=88)

Respondents had mixed reactions to *question 21* but the largest portion (37%) was in favour of a new resource clearinghouse versus having a new topic added to an already existing web site (31%).

The other comments gathered from participants about how a resource clearinghouse should be developed and structured were: (N=22)

- It should be structured similarly to the *Health Promotion Clearinghouse* or be part of the site;
- Keep it separate from other sites so the clearinghouse is dedicated to older adults making it is easy to find information;
- Use the clearinghouse as a mechanism to prevent ageism;
- The resource clearinghouse should address the age group of older adults from ages 50 years plus so the prevention aspect reaches a larger age span.

I think we could use existing health promotion clearinghouse with a section dedicated to seniors. There is no point in creating yet another clearinghouse.

It should be structured as part of the Health Promotion Clearinghouse

I would recommend the Health Promotion Clearinghouse as a potential site.

Do not complicate the system. Keep it for seniors only.

A clearinghouse aimed at the media showing positive aspects of aging. We already have plenty of information about the downside of aging. If North American society had more of a positive attitude towards aging, a greater sense of well being would exist in society.

Older adults should include people who are 50 plus. It brings more prevention to a larger age span.

Question 22

Do you have additional comments or other recommendations on increasing active living and physical activity opportunities for older adults in Nova Scotia?

The final account of the *comments* and *recommendations* expressed by respondents on increasing active living and physical opportunities were:
(N=22)

- The resource clearinghouse is a great opportunity to help increase active living and physical activity opportunities for older adults;
- Do not create something totally new. Try to incorporate it into existing programs that would meet the needs of older adults and provide it with sustainable funding;
- Funding for a fitness infrastructure should be based on the whole population not just certain age categories;
- Encourage an active lifestyle throughout the lifespan and start to show people the implications to our health and healthcare system when it is not;
- Create more visible marketing (e.g. television ads) and educate older adults of the benefits of healthy and active aging;
- A system to keep track of up-to-date funding options from municipal, provincial, and federal governments is required;
- Ensure that program development for older adults incorporates ‘inclusiveness’ in planning for those with lower incomes and the disabled; and
- Persuade developers and construction companies to build using ‘universal’ design concepts which support positive aging.

I think it is a great opportunity that you are looking at and it is a long time coming.

Funding for fitness infrastructure should be for projects which the whole population can take advantage of. Improving the trails of Nova Scotia would give us more bang for our bucks than any number of new golf courses which only serve our affluent population.

Encourage an active lifestyle from childhood on. We should be more informed on the results of years of inactivity and the cost to our health and to our health care system which we are ultimately paying for.

Try to get to the seniors and convince them that they do have some control over their health outcomes! We need more visible marketing like TV ads showing the potential gains for the senior. It should include testimonials on the before and after quality of life illustrations and stories.

Select programs that have current infrastructure that will keep the programs going and sustainable!!!!!!

We need to be kept up to date on new activities available and funding opportunities, such as provincial, municipal and federal grants.

Remember there are physically challenged and low income people that can't participate in a lot of the activities offered.

I think we should be more aggressively promoting physical activity from a very young age. Therefore potentially avoiding many of the issues we face in latter years.

The resource clearinghouse should focus on older adults so the message is not lost.

We need to promote universal design concepts. Developers are not in step with the aging population realities.

Additional comments and suggestions continued...

- Include information in the resource clearinghouse that focuses on the physical effects of stress on the body, the use of medication and physical activity, the connection between mental and physical health and also the importance of nutrition and diet;
- Encourage stakeholders and partner agencies to work together to support physical activity among older adults; and
- Increase opportunities and infrastructure for older adults to remain in their own homes and be active volunteers in the community.

Reach out to other partners. I recently learned about loaner pedometers at a rural library - a great value added feature for the library and everyone wins with increased activity.

The resource clearinghouse should focus on older adults so the message is not lost.

It is important to add information on diet and physical condition.

Most activities of this nature (e.g. senior games, fitness classes, dial-a-ride etc.) are dependant on volunteers. Unfortunately, our provincial and federal laws, not to mention insurance companies concerns, are making it exceedingly difficult to attract anyone to volunteer for anything lest they are placed in a position where they could be sued. If volunteers could at least be offered some sort of tax benefit for the hours and miles that they travel, it might help in attracting more in getting involved.

I feel the availability of exercise programs and any type of active living opportunity are as important to both physical and mental health. It is wonderful to see someone so surprised to see an activity help their condition. With the prevalence of diabetes, heart trouble, and stiff joints physical activity is important.

Focus Groups Analysis & Findings

Methodology for Focus Groups

The purpose of the focus group sessions was twofold:

- ⇒ to help understand older adult's program, information and resource needs for healthy active aging; and
- ⇒ to determine the need for a resource clearinghouse.

Seven focus groups were conducted in different locations across the province to collect qualitative information from participants on the topic of active living and physical activity opportunities for older adults.

Each session lasted between 90 and 140 minutes depending on the input of the participants. Appropriate venues were secured for each of the focus groups. The locations of the sessions were settings that were comfortable for the participants and not open to the public to help ensure privacy. The table below provides a summary of locations, and number of participants who took part in each focus group.

<i>region</i>	<i>location</i>	<i>number of participants</i>
Fundy	Milford	8
Valley	Annapolis Royal	8
South West	Shelburne	6
South Shore	Bridgewater	16
Highland	Antigonish	3 *
Cape Breton	Glace Bay	18
Central	Dartmouth	9
	Total	68

**inclement weather reduced the # of participants able to attend*

Recruitment

Recruitment took place one to two weeks prior to the focus group session dates. Due to the time constraints of the project, telephone recruitment and posting a sign up sheet was the most effective method to carry out focus group solicitation. Recruitment for participants occurred in consultation with the recreation coordinators, seniors' clubs and local community representatives who had knowledge of the preferred target populations in the selected focus group areas.

Focus Group Proceedings

The introduction provided to each group included some background information about the project and its funders, the purpose of the focus group, and statements of confidentiality/consent to audio record the session. Furthermore, a brief work history about the facilitator was provided to establish credibility with the group before beginning the questions. A flip chart was not used to eliminate the possibility of interfering with the flow of the discussion.

Focus group attendees were requested to provide feedback on questions relating to three areas of discussion:

- *Active Living and Physical Activity Opportunities for Older Adults*
- *Information Sources for Older Adults*
- *What More Could Be Done*

The questions used in the focus groups were developed in consultation with the sponsoring agencies (e.g. RNS, Seniors Secretariat and NSHPP) and the research consultant. The questions were then reviewed and piloted in a small group session before they were used in the facilitated group sessions. Appendix 6 provides a copy of the focus group questions.

At the end of each group session participants were given a token of appreciation in the form of a cellophane bag containing the following items: Health Canada's *Physical Activity Guide to Healthy Active Living for Older Adults*; a copy of the flyer *Activate Yourself* by the Active Living Alliance; a copy of the local recreation guide or flyer (if available); *Take the Roof off Winter* red fleece hat; and a chap stick.

Methodological Limitation

It is important to acknowledge those who took part in the data collection process as well as those who are missing from this report. A methodological limitation of the sample population was identified in the study. The recruitment was conducted by local recreation coordinators and employees in the selected regions and therefore may include a higher concentration than normal of older adults who are both socially and physically active within their communities. Consequently, the sample population also highlighted this issue at every session held and recognized they were 'not' representative of older adults in Nova Scotia who may be *socially isolated, disabled, inactive and financially disadvantaged*. It has been amply demonstrated that people who respond to research requests are different from those who do not. Non-responders tend to be more 'dysfunctional' in a variety of ways than do respondents; responders tend to be a biased sample of all service recipients and are often highly motivated or hold strong opinions (e.g. Bass 1982; Hayslip, Hoffman & Weatherly, 1998). Whether or not a more representative sample would have yielded a different or more conclusive finding remains to be seen. This experience does suggest that more investigation may need to be completed to address the needs of this unrepresented population.

Advantages and Limitations of Focus Groups

The main advantage of focus groups is that they provide for in-depth discussion and probing of the issue of interest. The researcher is able to capture the opinions of more than one person in one session and the interaction between group participants can result in increased elaboration of a topic and broader insight into understanding an issue. In addition, it is a cost-effective method to collect data from multiple sources in a short period.

An important limitation to emphasize about focus groups as a method of inquiry is the results of the sessions cannot be generalized to the entire population on a statistical basis. In addition, the method has the potential for participants to influence one another's opinion ("peer pressure" or "group think"). However, the opportunity existed for those who wished to express their opinions by engaging the participants in a facilitated discussion.

Analysis of Qualitative Data

Each focus group session was audio-taped, allowing the researcher to concentrate on moderating the session and increasing the credibility of the data. The audio recorder was placed in the middle of a table in a visible location in the centre of the group. Consent forms were distributed to all who took part in a session. In addition, observational and session minutes were recorded for each session and used in the analysis of the data.

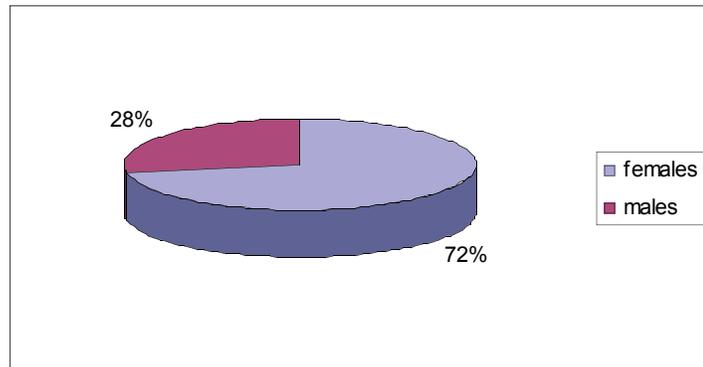
The qualitative data collected from the focus group sessions were coded using a simple category system of key words and concepts. Recurrent themes and patterns emerged from the key words and concepts and were then sorted for similarities and differences in responses. Generally speaking the regional differences were not very pronounced however a few have been highlighted in the *What More Can Be Done* section as clearly unique in the overall analysis.

Focus Group Sessions-Results

The findings presented in this section of the report represent opinions and recommendations gathered from 68 participants during a series of seven focus groups held across the province during February 2007. To simplify data presentation, the questions and the findings appear in the same order as they did during the focus group sessions. This section is organized by topic of discussion during the focus group sessions. With regard to formatting, *italicized font* and vignette boxes represent direct quotes or the ‘the voices’ of participants.

Sample Composition

In total, 68 individuals took part in seven focus group sessions. Forty-nine females (72%) participated in the focus groups, along with nineteen males (28%). Although attempts were made to encourage variation in gender, physical ability and cultural diversity within the target population recruitment, the majority of focus group participants were white females who reported being regularly active. The age of the participants was varied; report contributors ranged between the ages of fifty-five and ninety-four years.



Most participants identified themselves at the beginning of each session. The sample group consisted of older adults who attended local seniors’ fitness or aqua-size classes; community fitness leaders; fitness and yoga instructors; members of relevant organizations (i.e., seniors’ clubs, community development and recreation associations, church groups, etc.); and volunteers (e.g., Arthritis Society, Heart and Stroke Foundation, VON, RCMP Senior Safety Program, etc.). It should be noted that not all the individuals who were present at the focus groups identified their relevant associations.

The majority of individuals who took part in the focus group sessions actively participated in the discussion; very few were just ‘observers’ of the conversation. In addition, many participants reported to the facilitator during and after the sessions that they were enthused about more attention being focused on older adults’ physical activity levels and the opportunities available to them. They also expressed that participating in the discussion itself motivated them to be more active and to try new activities they heard about during the focus group (e.g., aquacize, dance and seniors’ exercise classes, walking trails, ping pong matches and hockey shinny).

Active Living and Physical Activity Opportunities

Yes, I am physically active. I have a treadmill which I use. It was too big for my son's apartment so he brought it out to me, I think as an excuse so he wouldn't have to use it. As well as being active at home, I was in the senior games in our community, some church groups; this is the 3rd time this week that I've had to go to a meeting, and so I guess you can say that I am active.

I go to a walking group. I go to an exercise class. I exercise at home. And I attend different organizations 4 or 5 days a week.

I think I'm physically active. I'm in the senior games, I look after ball fields and the outdoor fields and we meet once a month. My physical activity is that I do a couple of volunteer jobs every week, and TV Bingo, and up until this fall I was active in the summer sports. I used to bowl, but now we don't have any place to bowl. I really miss that. And I take part in other activities like washer toss, and horseshoes, and golf.

I'm 70 years old and my aim in life is to keep fit for the next 10 years. And I really work at it. I walk an hour every day, 7 days a week, and I cross country ski, that's part of my hour when I'm out, and I do bird watching and play tennis in the summer, and occasional golf, but I work at it, to make sure that I stay healthy.

The vast majority of participants self-identified as active and participating in a range of social and physical activities. Although most reported being active throughout the year, the winter season was highlighted as a 'less' active time due to the fear of falling or driving on poor road conditions. Many were involved in multiple organizations or community groups and gave the impression they had led an active lifestyle both before and after retirement.

Only a small portion of the focus group attendees acknowledged they were *inactive* or *underactive* for their age.

Well I'm not so physically active this time of year (winter); I travel constantly so I'm on the go a lot. I consider that I eat the proper foods, and I stay healthy that way. I'm just too lazy to come into town (I live in the country) to do all of the exercises and stuff. I just don't have the motivation this time of year.

I wouldn't consider myself very active. I go to a walking group for ½ an hour 2 or 3 times a week, but in the winter, don't always get there as much. A lot of my time is spent in the car driving to places to see people or to attend meetings, and I sit at the meetings and I sit in people's homes. A lot of it is just visiting and sitting at a desk, or reading and I have lots of excuses not to do exercises. I would say I'm not very active. So I would say that I am underactive.

All regions were able to provide a description of the different activities and opportunities for physical activity that were available to older adults in their community. Participants cited the following activities and opportunities used to stay active and healthy:

- Biking
- Bowling (e.g. outdoor and carpet)
- Cards and board game parties
- Crafts
- Curling
- Cutting and stacking wood
- Dances and dance classes
- Fishing
- Gym memberships
- Gardening
- Golfing
- Hunting
- Kayaking
- Washer toss and darts
- Outdoor walking and hiking trails
- Seniors'/Elder fitness or aerobic classes
- Seniors' club activities (e.g. socials, picnics, barbeques, pot lucks) and attending regular meetings
- Seniors' Games
- Skating, snow shoe rental and skiing
- Swimming and aquatics programs
- Tai Chi and yoga
- Tennis
- Volunteering
- Walking and walking programs
- Weightlifting and strength-based training

Barriers to Participating in Recreation, Active Living and Physical Activity Opportunities

Focus group participants listed the following as common 'barriers' preventing them and other older adults from taking part in recreation, active living and physical activity opportunities:

- The distance to travel from their homes or community was considered "too far away". Rural area participants perceived this as a *major* barrier and reason not to take part;
- Financial cost to participate and travel;
- Lack of transportation options or vehicle;
- Poor weather conditions;
- Requiring a friend or acquaintance to participate with them in the activity;
- Physical health limitations (e.g., injury, asthma, knee or hip replacement, arthritis, heart disease, blind);
- Age and the perception they are too old to be physically active;
- Lacking the 'know how' and opportunity to improve physical activity levels;
- Lack of energy or personal motivation;
- Lack of respite care options;
- Times of day classes are offered. Daytime exercise classes were preferred;
- Lack of time; and
- Lack of facility or infrastructure (e.g., bowling, swimming pool, safe walking trails).

Some participants did not agree there were legitimate 'barriers' preventing older adults from engaging in an active lifestyle. Instead they articulated that it was often a lack of motivation, experience and lack of knowledge – not knowing that *active living* is an important aspect of a healthy aging process. Other participants hypothesized that if an individual really wanted to be active he or she would find a way to do so because options were available in the community (e.g., they could join an exercise class or recreation program, go for a walk, attend a dance, or join a seniors' club, etc.).

Everything is too far away. It's about an hour to get anywhere. The most important thing is the distance.

I don't like to drive long distances to exercise or to swim.

Time; a big barrier is time as it takes so long to drive everywhere there would be an activity.

There are no barriers for me because I can drive. My fear is for the seniors in the area who do not drive. I wonder how they're going to get there.

Weather keeps me and them in.

Walking in the cold months when it is slippery. While they clear some of the sidewalks, there is no official sidewalk program.

I have heard a lot of people say they can't afford it, but it seems to me there should be some system with an arrangement where there could be subsidized taxis, or subsidized transportation

There's a transportation issue. But there are many people in our community who couldn't get there. Not only because they don't have a car, but also because they're not physically capable due to poor health and cost.

Laziness: There are no barriers for me except that I'm lazy.

Health and age: We have to slow down at a certain age and just realize there could be physical limits, personally.

Walking is a problem. We have over 1000 people and there is absolutely no walking trail. I put in a proposal to put in a walking trail so the seniors and children can walk somewhere down here.

For us sitting here in this room, I don't feel there are any barriers but there are a lot of people who just can't afford to do anything but walk. And sometimes getting the desire or the energy to go walking by yourself is pretty hard to come by.

Availability, accessibility, and cost would be barriers to what I'd really like to be doing. I think finding alternatives is where it's at. Finding what you can do where you do live. I'd love to be able to swim, for me the barrier is the cost of the distance and the cost of a membership where it is available.

I notice when I call people to start yoga class. It is in the paper, and it's very visible, but a lot of people say, oh, I didn't know that. You seem to have to call and organize transportation to keep it going.

I think the answer to that question is sort of group participation. I notice that if you want to walk, and you belong to a walking group, you go every day. Because you're responsible; if you're volunteering at a tea, you have to do it, that type of thing. I think any type of participation is easier if you do it with other people.

We need to form small groups to encourage people to go to yoga, to encourage people to walk, to encourage people to play tennis and to do things in the community, because people are there and they're willing to do it, but they just seem to lack the motivation. Like the buddy system of some type. I think that group participation is very important.

Yoga is just across the road from us, that makes it easier.

How many times do we hear, " Why didn't you call me?"

I think the key to all of this is the social aspect. I mean I'm not a good golfer, and I'm not a good bowler. But the motivation to go there is because there are other people there who would in some way depend on me to be part of that team. I mean, I love golf, but I would never go out golfing by myself. I would never go bowling by myself. And you know, it's a lot of things, I would never go play darts by myself. This is probably what I need most for my physical fitness and so forth

But I'll admit, when you join a group, and get to know the people mental well-being is just as important as physical well-being, that's my thought.

They felt more confident when they learned that it was designed for seniors. That was one of the things that brought them out to participate.

I'd just like to say that these classes were very accessible due to the fact that I was given information by mail and that I could try it before I had to decide whether I wanted to be part. You didn't have to sign up first, then pay, and then find out that you didn't fit in there or you didn't like it or whatever. They'd let you go and take a class for nothing, so that made it very accessible.

One of the things I like about this particular class is we pay as we go. So that if you are going to be away, or you're sick, your money isn't wasted.

The SMART program: They came to the Complex, and they gave us papers and ideas of what to do to keep active, even if they're sitting down.

What Makes It Easy To Be Active

The majority of focus group participants had *taken part or had involvement* in programs and opportunities for older adults in their area to increase and maintain regular physical activity. Participants at all sessions were able to create a quick inventory of what motivated or made it easy for them to participate and be active. Below is a summary of responses to what motivates or *the reasons why* older adults choose to participate in active living and physical activity opportunities:

- ⇒ The opportunity was in close vicinity to home and community;
- ⇒ The opportunity was not expensive to participate in or had a reasonable per class rate versus paying for all the sessions at once;
- ⇒ Someone telephoned them personally and asked them to participate;
- ⇒ Someone offered them transportation or it was not a concern;
- ⇒ Encouragement and support from friends, family and others to continue to stay involved in the activity or opportunity;
- ⇒ There was a perceived social and fun aspect to the group participation;
- ⇒ Responsibility to complete a task or activity that would not have occurred unless they participated;
- ⇒ Knowledge that it was designed for or specifically tailored to older adults;
- ⇒ They were able *try out* or *test* the activity for personal suitability before committing to participate for a length of time or to annual fees; and
- ⇒ The information was easy to access and/or it was mailed directly to them.

What Prevents Older Adults from Participating

Lack of motivation and effort was one of the most common reasons given by the groups to explain why some older adults were not active. Other reasons given regarding why some older adults chose not to participate in physical activity opportunities include:

- ⇒ Nothing was available in their area;
- ⇒ They were not aware of what was available in their area;
- ⇒ They wanted someone to accompany them; and
- ⇒ They did not have transportation and/or the fee or cost was too expensive.

Sufficient Level of Opportunities

After some discussion, most of the group sessions came to the consensus that while opportunities were available (both at the individual and community level) for older adults in the majority of regions, more is required. As well, it was highlighted that sometimes motivation, encouragement and support is required (e.g. transportation, financial assistance) to use what is already offered in their community.

The groups frequently indicated they wanted more options for physical activity (i.e. time of day or type of program/class offered). In some areas a lack of infrastructure (e.g., sidewalks, groomed trails) or facilities (e.g., pool, tennis courts, gymnasium, and indoor walking track) was cited as a drawback to active living. Some participants pointed out there were a lack of 'appropriate' opportunities for older adults and many private gyms were viewed as being not *senior friendly*.

In all group sessions some type of reference was made to individuals who are not accustomed to 'regular' physical activity and therefore may not be aware of what is available or may not see the everyday opportunities to be active. It was also highlighted by the groups that economically disadvantaged older adults, and those who have never been active before, require more motivation and incentive to incorporate active living and physical activity into their lives.

All groups agree that providing more opportunities and programs targeted at seniors (55 years plus) will increase the activity levels of some older adults. Many group members felt that if an individual was relatively *healthy* and the opportunity was *convenient to attend*, more people would participate.

Alternatively, some participants held the opinion that not all older adults *want to be active* and that some individuals will never participate in an active lifestyle no matter what you offer them or tell them about the benefits of physical activity.

If you got involved in everything, there are just not enough hours in the day, and yet there are so many people that say there's nothing to do around here. And I mean, you know, they just don't open their eyes. I think if you've got the money, and you've got the transportation, there are no barriers. So yes, there's enough to do. But if you can't get to everything, and you can't afford everything, then you can't go.

Well, it's motivation that's lacking with a lot of people. It's a small percentage of the population that actually gets out and does anything. I don't know how you motivate people.

The senior classes got split into two groups. More classes would be good.

Okay, there's not a lot here, so there's no sense asking what prevents you, because it's prevented because you don't have that much available. Can I say that?

It's encouragement. It's a social thing mixed in with the activity; a friend to call and say "well, let's go out to whatever, put your coat on". That's what you need, some kind of person to coordinate seniors to be active.

But there's not a lot of variety of opportunities for older people. I guess if we're thinking about organized activities as opposed to activities you do by yourself, I'm not quite sure. I think there are plenty of opportunities for them to do things on their own, if they're not unwell. We live in a very safe and wonderful environment, in terms of the landscape and the outdoors. There are lots of opportunities for walking, for hiking, for gardening, for all of that. But in terms of organized activities, I don't think there is a lot of variety or for older people.

I've seen this, a lot over the years, anything that has advertised activity for seniors, there's always a lot who come. Now you see those smaller communities having programs, like yoga.

I guess if I think of people that I know I'd say many of them are aware of the importance of staying healthy. I'd say a lot more are now with this whole shift in how people are thinking again about exercise in particular. Not all, but many do. I think when you say healthy, I always think of food consumption. People are more conscious about what they should be eating for healthy foods today. We see it on TV, we hear it on radio, and we've definitely taken a step forward. I try to stick with healthy foods.

I think the message to be physically active is reaching people. And from the media, you can't turn on the television or even the radio...they're constantly interviewing people and talking about active living. I think the message is certainly out there if you care to listen to it.

I feel today that most folks are aware. People don't want to sit around today, people want to get up and get going.

I think so. Because there are 50 to 60 people out Wednesday mornings going into line dancing classes.

Yes, if they're interested in finding out there's lots of information and opportunities available. Just look at the recreation guide that comes out. You have to admit, we have a wonderful recreation department.

aware but lack the *motivation, knowledge or the means* (e.g. good health, financial security) to increase physical activity levels.

Older Adults Awareness of Healthy Active Aging

Focus group attendees had a mixed response to the question “*Do you think that older adults are aware of the importance of healthy active aging?*” Almost equal numbers held contrasting opinions on the knowledge level of older adults about the importance of healthy active aging. Participants stated the majority of older adults were aware of the importance of healthy active aging. Many groups felt this was apparent because friends and family they know personally are taking steps to be active or make some type of attempt to be healthier. It was also mentioned in most group sessions that in recent times, television, radio and other forms of media focus more on physical fitness and good nutrition.

The opposing view expressed was the idea that a large number of older adults were *definitely not aware*, were at times trying to avoid physical activity, and were quite content to mature without participating in an active lifestyle. For this reason participants hypothesized that older adults are not aware of the importance of active lifestyles because they would be active if they fully understood.

A segment of participants felt older adults are

If people are not active, it's because they don't want to be. Some are just not aware. Some are not motivated to change.

I don't think they are aware. They're not active, they're just living. They figure once they hit that magic age of 65 years, it's all over.

No, you try to get them to do something and they always have an excuse. They just don't want to get out and do anything.

There is all kinds of information out there. Maybe for some, money is the biggest problem? You know, that they can't afford it?

I agree with everything that's been said. I really don't think seniors are aware. They think when they reach a certain age they can just sit back in a comfortable little chair, and that's it.

Oh I know that, but there are a lot of people around in front of the TV, it's the TV! Some of them don't even get up...for a lot of people it's the TV! In our building, it is anyway. They're sitting there like this, watching TV or everybody coming and going.

I think a lot of exercise some seniors get is walking out to the garbage bin with their garbage. And half the time they give it to somebody else to take out for them. But there are some people that they just want to watch TV. No matter what you do, if we have parties or anything going on at our Club they don't come down. So you can't do anything with people like that.

My wife has yoga tapes. She feels a lot better when she's doing it.

I have a Richard Simmons video - Sweatin' to the Oldies. It's for the oldies.

I still have the tape, and I drag the tape out now and then and do the Tai Chi. But you know, I don't feel I can do it myself. I need a room full of people, I need the motivation.

Pre-retirement Seminar Package.

The newsletter from the Recreation Department.

Yes definitely! Going way back to 5BX. Remember when that came out a hundred years ago? That was a little booklet. The Armed Forces gave it to everybody. It made us very aware of physical exercise. I can remember using that resource. That type of thing is very important and it was a free booklet.

The Seniors Secretariat puts out a Program Guide for Seniors with all the 55+ Games Society contacts and others in the section. It's excellent, every senior should have one. Seniors activities are listed right in the middle of the book, so it helps identify the resources for seniors.

Our local newspaper is where most people look to see if there's anything is going on this week.

We used this booklet with the Heart and Stroke Foundation. They provided a workbook for us to take home. As a workbook it probably would be more useful than just as a handout. And also the discussion of the topics that were covered like the Canada's Health Food Guide, participation and the social aspect of what makes learning more appealing and more fun.

There's a woman in Port Williams who has developed a senior's fitness program and videotaped the content, and it's very well done.

We had participants bringing in material that they had used, particularly video tapes. A flip type book on Pilates. So there's stuff out there.

This 'Physical Activity Guide for Older Adults' was given out at one of the hospital auxiliary and regional meetings. Someone came along and talked about health, and we were all handed one of these.

Our Recreation department provides a separate listing of activities that are for the seniors and older adults.

From friends and family. You could turn to your doctor. I mean they would be all included as information sources.

My family doctor is very much a recreation freak. He actually asks, every time you go, he zeroes in on it like that...so you know he pays attention to it and encourages you if you say you are not.

Information Sources

Older Adults and Information Pertaining To Recreation, Active Living and Physical Activity

Only a small number of participants who attended the focus groups had used information resources designed to increase active living and physical activity for older adults. Most were unfamiliar with the material and resources aimed at older adults. Participants highlighted that sometimes information on how to be more active came from friends and family suggesting they should be physically active. In some cases a physician had recommended they participate in an active lifestyle to help with a health condition but this was very limited. Those who *had used* information resources in the past were able to list the following types of information resources:

- Books (other than the BX5 by Canadian Forces, no other titles or names were provided);
- Local radio and cable TV;
- Local newspapers;
- Heart and Stroke Foundation- *Move More Workbook*;
- Videos-Yoga, Pilates, *Sweatin' to the Oldies* by Richard Simmons;
- Health Canada's Physical Activity Guide for Older Adults;
- Seniors' Secretariat *Programs for Seniors Guide and web site*;
- Parks and Recreation Association and/or Department guides, booklets, flyers or pamphlets;
- Internet web site searches;
- Active Living Coalition Tips and Newsletter; and
- PBS Television Series *Sit and Be Fit*.

Very little discussion was offered by participants as to what prevented them from accessing information sources designed to increase active living and physical activity for older adults. Many attendees admitted they had not looked for information on the subject before and that there had not been a need to obtain it. Still others stated they used the local recreation department guide or flyer to find activities of interest to them or they attended activities sponsored by local seniors' clubs or by churches. A few group members had taken part in wellness clinics and health promotion pilot projects (e.g., SMART, or Move More). These events provided individuals who attended with information materials such as tip sheets, booklets and/or workbooks. The material was highly valued by those who received them.

Sufficient Level of Information and Resources

For the most part, groups came to the conclusion there was a sufficient level of information resources available on active living and physical activity for older adults. They indicated they had, for the most part, found information unexpectedly (e.g., meetings, brochures in waiting areas, magazines, flyers in the mail). More than a few attendees also received information from a health professional (e.g., specialist or family doctor, diabetic clinic).

Finding information did not pose a problem for participants. They had a list of ideas to offer if someone wanted information and resources on older adults and physical activity. They could do the following:

- ⇒ check with the local recreation department;
- ⇒ go to the library;
- ⇒ complete an internet web search;
- ⇒ check the local newspaper;
- ⇒ go shopping and buy a video or book;
- ⇒ watch the local cable station;
- ⇒ listen to the radio community events; and
- ⇒ attend local senior club meetings or activities.

I'll answer that question. Yes! The recreation department puts out a guide that lists all of the activities and the coordinators to contact. All the information you need is in the guide and it comes out a few times a year.

Consensus of the entire group here is that there is a sufficient amount. I think if you want it bad enough, you get somebody. You know; you would phone someone and ask.

Well I'm sure that if anyone has a computer, there would be a lot available on that. I've never tried it myself at this point. I think probably I will, I'll see what they have to offer.

Everybody else here seems fairly comfortable with what they are receiving.

It's all there; the newspaper is full of information.

I think so. I think there is sufficient. It's a matter of, I think, people choosing it and going to look for it, or sometime you might come upon it by accident...

There are advertisements on radio and TV now about being active and the importance of it. So, I think there is information. I don't know what more people can do...

There is a newsletter, that's all.

No information resource – none that I know of.

There are no resources in this area that tells community members what is available for seniors in the community.

I think that I hear about things through word of mouth. I think the responsibility rests on everyone in the community to disseminate the information. Share what they've been doing with others. A notice board in the recreation centre would be fantastic. It's an accident as far as I'm concerned. I'm lucky if I've heard about it.

The information most times is in the local paper. But if you want to find out, you try different ways.

Your kids ask you? They are so much younger. I have a daughter; she goes exercising and everything to the gym regularly. So she said that it's great for you Mom...

Maybe we have to talk about it more. Like, when we meet or see each other to try and get them into the physically active things. A lot of older people, they don't do that. No, they shut down when you mention it.

Bear in mind that the majority of participants had not previously searched or reviewed information resources on the subject matter. Therefore, it can only be assumed this evaluation is based on individual perceptions and not genuine experience.

A handful of focus group attendees emphasized there were *no* information resources available on active living and increasing physical activity opportunities for older adults in their area. Given that many of the groups indicated they had not previously searched for information and resources for older adults they felt they could not comment on whether or not there was a sufficient level.

Despite participants' lack of familiarity and effort to acquire information resources on active living and physical activity, they were generally quite enthusiastic and responsive about the possibility of receiving something in the future. This was even more evident when, after each session the facilitator distributed information on the subject under discussion (*i.e.*, *Health Canada's Physical Activity Guide for Older Adults*, *Active Living Coalition Newsletter*, *etc.*) and focus group attendees seemed pleased to receive the material. A number of participants requested additional copies or asked where they could obtain similar materials.

Type of Information That Would Be Useful

The following is a summary of *type of information* participants were *interested in* or mentioned they would *find useful to receive* on older adults and physical activity opportunities:

- ⇒ A list of local resources and opportunities;
- ⇒ Local calendar of events;
- ⇒ Motivation tips on becoming and staying active;
- ⇒ Different ideas describing what they could do for physical activities;
- ⇒ Teaching tools and instructors manuals;
- ⇒ Resource Library for loan (e.g., VHS, DVD, CD-ROM);
- ⇒ List of web sites and important organizations; and
- ⇒ List of internet resources available for downloading and printing.

Some participants expressed they did not require information but that they did require the fitness equipment (e.g., exercise mats, balance balls, sound system etc.) or a multi-purpose recreation space that had ample space for large classes.

Best Form of Communication

Participants overwhelmingly indicated that the best form of communication for older adults was the mail. Information regarding active living and physical activity opportunities should be sent via mail in the form of recreation *guides or flyers*, and *local newspapers* should highlight community events, activities and information for older adults. It was also stressed by the groups that whatever method of communication was used, the information provided has to be *ongoing* and *be available* in places where older adults often gather or routinely visit in their area (e.g. church, doctors office, specimen collection sites). Focus group members suggested the internet and e-mail as a form of communication for the future and for themselves but not for the majority of older adults.

What More Could Be Done

The changes or suggestions most often conveyed during the group sessions on *what more could be done* to better meet the needs of older adults to increase active living and physical activity levels were as follows:

- Continue to consult and discover what older adults want to do to achieve active living and higher physical activity levels;
- Increase opportunities and programs that better meet the needs of older adults (besides walking programs and trails);
- Develop ad campaigns and social marketing that encourage older adults to be more physically active. In particular, provide tips on how to motivate and incorporate an active lifestyle into daily living;
- More funding options offered to seniors' clubs and councils to develop programs and opportunities;
- More funding options offered to build infrastructure and opportunities;
- Establish more funding for maintaining (including snow removal) safe sidewalks and trails;
- Hold exercise classes at seniors' housing complexes and apartments;
- Subsidize or provide financial assistance for older adults (*who require it*) to take part in programs intended to increase active living and physical activity levels;
- Develop some type of coordinated program that motivates and encourages older adults to increase physical activity and contacts them directly by telephone;
- Create in-home or home-care exercise programs;
- Hold 'Seniors' Days' at local recreation facilities or gyms and invite older adults to try out the facilities and activities available in their region;
- Advocate for reduced membership rates for older adults at recreation centres and private gyms; and
- Provide income tax credits for recreation facility memberships and fees associated with physical activity, including dance lessons and classes.

Okay, there's not a lot here, so there's no sense asking what prevents you, because it's prevented because you don't have that much available. Can I say that?

There seems to be a big hesitancy, amongst older people who try to be active. But once they get out and try it, they say, oh, I wish we'd done this years ago. It's fun. When we did our first 55 plus games here a year and a half ago, we had about 150 people turn up. A lot of them came because they were dragged out by friends, but a lot of them walked out and said "we'll be back".

Winter's a real bad time for seniors because they can't get out, we've got no sidewalk to walk on cause it's all broke up, then the ice, and everything else, you know, it's a terrible time in the winter for seniors. They don't want to go out.

It feels so much better, mentally and physically, to get out and do something. But it's just getting them there in the first place can be difficult. But once they get a taste of it, they say, yeah, we'll be back.

I think we have to be more focused in what part of the population you want to get. You can't just say, everyone let's go walk.

Obviously you need more programs. It's very simple math. If there are seniors out there that want to participate, you need to provide more activities

But so many people, they always seem to need a person to call five people and say would you like to come and do that, and if they say yes, you say Okay, I'll be there, I will take you and I will see that you get back home. There always seems to be a level of coordination required to coordinate getting them from their home to the activity.

I think we need to get our municipalities to stop bickering and get on with our municipal building. I think the opportunity is here for us to talk to our local counselors and tell them to get on with it!

Tax deductions similar to the one they developed for kids. We need incentives for people to do anything.

Go get them to lower prices at the gyms (e.g. Curves or Nubodys).

Regional Differences

Fundy Region (Maitland) – Although participants acknowledged they were fortunate to have an indoor pool facility in this area, the loss of the bowling alley in East Hants was viewed as an enormous shortfall. The closure of the local bowling alley reduced the availability of sports used by many older adults for regular physical activity. Participants suggested re-opening the bowling alley. The development of walking trails was also pointed out as an infrastructure improvement that would enhance both community health and tourist appeal.

Valley Region (Annapolis Royal) – The recreation department was viewed as very accessible and willing to work with the residents on developing new programming to address their needs. The *Club 400* and the *Active Living Guide* were highlighted as important sources of information on the available physical activity opportunities and programs. The development of the *Lifeplex* is anticipated as a new opportunity in the area to increase physical activity levels of all age groups.

South West Region (Shelburne) – Active living for some participants was seen as part of employment and/or their lifestyle (e.g., gardening, cutting wood, instructing a fitness or yoga class, volunteering, etc.) and not always a planned event or program they attended. An indoor pool facility was emphasized as a community resource that would improve fitness levels of all age groups. A Heart and Stroke Foundation Pilot Project has interjected information and resources which have helped develop fitness classes in community halls.

South Shore Region (Bridgewater) – The construction of an indoor pool and finding a suitable location for the fitness classes were suggested as opportunities to improve existing resources. As well, the introduction of an indoor field and walking track was pointed out as a positive development. The discussion during this group also centered on the need for local governments to work cooperatively on establishing a community recreation facility instead of engaging in a power struggle over location and financial contribution.

Highland Region (Antigonish) – A sufficient level of opportunities were identified for the town and surrounding area. However, in the far reaching areas of the county the opportunities were considered very limited for older adults.

Cape Breton Region (Glace Bay) – Initially, the discussion centred on the more immediate needs of older adults such as daily living expenses (e.g., food, shelter, fuel) and the cost of the senior pharmacy-care program deductibles. However, participants were able to identify some opportunities (e.g., walking trails, line dancing class, cards, darts, socials, exercise videos) available in the area. They expressed vehemently that more variety should be offered. Some focus group attendees participated in the VON SMART program and felt this type of opportunity should be developed on a wider scale.

Central Region (Dartmouth) – Discussion focused on the lack of awareness regarding what is available as well as accessibility problems due to transportation and economic constraints of older adults. The programs offered by seniors' centres, the *Move More* classes and HRM recreation centres (e.g., Finnely, William Spry, etc.) and private gyms (e.g. Nubodys, Sportsplex, Dalplex) were highlighted in the conversation as important resources.

Verifying Need for a Resource Clearinghouse

All focus groups were provided with a definition of a resource clearinghouse. Subsequently, they were posed the question, “*did they feel there was a need for a resource clearinghouse to help address active living and physical activity opportunities among older adults*”. Below is a summary of the responses and discussions that ensued after the question was asked:

A resource clearinghouse can be defined as a centralized place that collects, organizes, and shares information on programs, resources, tools and facilities/infrastructure that concentrate on active aging and physical activity.

No, it is not needed

When the idea of a *resource clearinghouse* was first introduced, most groups were apprehensive. The principal concern voiced by participants was a fear the establishment and cost to maintain a new resource would take funds from local recreation departments or associations. It was commonly viewed by participants that the money allocated for a clearinghouse could be better spent on developing more opportunities for addressing the mental, social and physical barriers to active living. Other reasons identified for not developing a clearinghouse were:

- The vast majority of older adults do not use computers and would not benefit from this investment if it was exclusively a web based resource;
- In some cases the resource clearinghouse would be duplicating recreation and community organization publications that already exist since most areas publish a recreation guide or flyer. Participants suggested making sure the programs and resources aimed at older adults were clearly indicated in the guides.

No, we don't need one. That is more money going out.

Consensus here is that we don't want one!

I think it adds another layer, and we're big into layering information to the point where you can't find your way through it. The WWW is becoming how we live our lives. We try to find our ways through this web. And the parts that are missing for me in this is more programs, resources, tools, facilities, infrastructure....are insurance, funding....So we're looking more for funding opportunities than a resource like this.

Spend more money developing another organization of information is money that might be better spent organizing people in the community to do the activity. I think that it's just another thing we'd have to carry. I'd like to see it directed more to our own recreation departments and our own communities.

The information that goes out will be only as good as what comes in. The whole question of getting local information in to the clearing house and making sure that the information is current, that it's correct, so it's a huge task. And then again, that's a cost.

I'd say it's a significant cost to maintain something like this. And that's money that could easily be spent on programs....

It's just repeating what the rec. department is doing.

The definition is fine, but we're already doing that, through the recreation centre, so it would be duplication, in my opinion.

Probably every community has different needs, and you don't particularly want to hear what is going on in other communities. There would have to be a regional aspect to it.

I am thinking that we already have that here.

Do not know

A segment of the participants did not feel they were in the position to suggest or recommend the development of a resource clearinghouse.

Yes, it is needed

A small portion of participants were strongly in favour of the development of a resource clearinghouse. They stated the development of this new resource would focus attention on active living and increase awareness related to the importance of physical activity for older adults. The establishment of the clearinghouse would increase the information and resource tools for employees and volunteers who work within the field of sports and recreation. Communication and consultation between local community leaders (e.g., seniors' clubs, volunteer organizations) and recreation departments to avoid duplication and clarification of local information was viewed as an essential component of the resource clearinghouse.

I don't know. I thought we had enough information.

I don't know if I can speak for what other people need in the province.

Yes but there would have to be a regional aspect to it.

I think there is certainly a need.

You could see what's going on in other regions, and say, oh! That would be nice to have here....and get new ideas.

Yes but only if the clearinghouse would be in coordination with the municipality.

I definitely feel there is a need for one.

Most of us know what is available for things to do. But that's not true among a lot of seniors. So maybe for those people, it would be a useful thing.

Sounds like a good idea, but I mean, I've never thought of anything like this. It will help drawn attention to seniors.

Yes, a clearinghouse is a good idea as long as there is a mechanism for coordination to eliminate duplication of services.

Questions Raised

There were questions raised by participants about the development of a resource clearinghouse:

- Who would be responsible for updating the information regularly?
- Who would fund the resource clearinghouse?
- Would the resource clearinghouse work directly with local recreation departments and community organizations?
- Why not just compile a list of the resources/opportunities in every region and include it in the *Programs for Seniors Guide (Seniors' Secretariat)*? (Distributed to older adults in Nova Scotia)
- If the clearinghouse is web-based, how will the development of it help older adults in the local area if they do not use the internet?
- What are the next steps if the focus groups indicate the resource is not needed?

Prefer to Access information from a Resource Clearinghouse

Although the definition provided at the sessions did not state the resource clearinghouse would be accessible primarily through the internet, most group sessions assumed the development would be largely web-based. Overall, most group sessions indicated the majority of older adults would prefer to receive printed material sent directly to them via the mail system versus any other form of communication. However, it was noted this preference may change as the population ages, 'baby boomers' retire, and more older adults become computer literate. For that reason it was suggested that more than one type of access to the resource clearinghouse should be made available. Other suggestions made during the group sessions were:

- Pamphlets and flyers on the subject matter available at churches, doctors offices, drugstores, grocery stores, community, recreation and seniors' centres etc.;
- The best way to reach older adults is through health promotion (i.e. radio, television, print) campaigns on physical activity similar to the *Participaction* or *BodyBreak* commercials;
- 1-800 telephone number access that provides human contact and not an automated system to answer questions; and
- Give the information from the clearinghouse to our local recreation departments and have them give it to local seniors.

It should be noted that one group preferred not to answer the question posed because they did not want the development of a resource clearinghouse and felt it was ineffective to comment.

Additional comments or other recommendations

The following comments and recommendations were made during the group sessions closings:

- In two group sessions participants felt consideration should be given to the active living and physical activity opportunity needs of older adults with disabilities;
- The features of a resource clearinghouse should focus on various aspects of healthy aging in Nova Scotia not just active living and physical activity opportunities. The groups indicated repeatedly that information on the mental health & well-being, as well as diet & nutrition of older adults should also be a focus of the information provided by a resource clearinghouse;
- A few participants requested more information about where they could obtain resources on healthy active aging for older adults (e.g., web sites, organizations, and *Health Canada's New Food Guide*); and
- No extra comments or recommendations on the subject matter were provided. Enough information was revealed during the focus group sessions and no other comments were required.

Age is not a barrier to exercise.

Active living as adults comes from attitudes as we were growing up. I feel that as long as we keep our kids sitting down for 15 or 18 years, and then expect that they are somehow going to discover the joys of active living so that they can be active seniors, I think that there is something really wrong in this continuum. We have it really backwards. Children should spend more time being active, so that adults can be healthier, so that seniors can be more active and healthy too. We should be promoting prevention of illness, healthy lifestyles and active living.

What about people with disabilities? Something for the – I don't know, just bring them out into our meetings too, don't shy away because you're disabled.

I think it's a good idea to have these focus groups for the real stakeholders "seniors".

Section 3: Next Steps

Major Findings, Recommendations & Conclusions

Major Findings

The *Connecting Seniors to Active Living Project* activities took place over several months; large amounts of data were compiled and synthesized. The following is a summary of the major findings and conclusions discovered during course of project activities. Each phase of the project helped to provide a better understanding of active living and physical activity needs and requirements of seniors, practitioners and community leaders to increase active living and physical activity opportunities for older adults in Nova Scotia.

The use of multiple approaches that incorporate education and health promotion campaigns, community-base initiatives and home-based interventions appear to be the most effective at increasing the active living and physical activity levels among older adults. A review of the literature found effective interventions among older adults and included some of the following components:

- Education and awareness campaigns focusing on the benefits and importance of physical activity and a well balanced diet;
- Exercise counselling and instruction;
- Progressive stages of exercise intensity;
- Structured class or group-based physical activity sessions;
- Home-based physical activities;
- Telephone and written contact as a form of support;
- Computer-generated feedback and messages;
- Informal group meetings and special events;
- Comprehensive injury prevention system for monitoring and ensuring participant safety;
- Self-monitoring exercise log books and/or charting progress for participants to view; and
- Training and education sessions for professionals and non-professionals (i.e., volunteers) working on the method of intervention

Other factors identified as related to effective interventions or programs were:

- Consultation and responding to the diverse needs of the older adult population. Involving older adults in the development and implementation of interventions;
- The use of various types of approaches and models to determine which one is most appropriate for the given situation (e.g., one-on-one intervention, group interventions, lifestyle approach, homecare based);
- Recognize barriers and have solutions in place to address them including, but not limited to motivational factors and accessibility (e.g. transportation, location, cost);
- Conduct ongoing evaluations and identify “what works and what doesn’t”;
- Establishing contacts with key recreation and health professionals, care agencies and community organizations that can refer older adults or encourage their participation in an active lifestyle;
- Promote awareness around what is available for older adults with regard to participating in an active lifestyle and the physical activity opportunities available to them in their community; and

- Establish a funding mechanism in the long term to guarantee the intervention or program has sustainability and to help ensure the ongoing participation of older adults in an active lifestyle.

An abundance of evidenced-based resource materials and websites focusing on active living and increasing physical activity levels exist. Increasingly, new resources and websites are emerging; there is not a shortage of information. In spite of this ample supply of resources, accessing this material appears to be a major barrier. The use of inter-library requests and loans as well as extensive web search strategies was required to gather the recommended lists contained in this report. This process required the project to use a substantial amount of time compiling and evaluating resource materials and websites to provide an accurate picture of what appears to be effective and available for seniors, practitioners and community leaders to increase the probability of healthy active aging.

No one resource or website can be deemed superior, more effective and/or all inclusive because of the varying and diverse needs of older adults. Instead, the option of developing a resource clearinghouse which brings together a multitude of features and resources appears to be the most appropriate venue.

The needs assessment phase of the project employed a survey (*online and mail format*) and series of seven focus groups to help understand the needs of seniors, practitioners and community leaders when attempting to increase active living opportunities and physical activity levels among older adults in Nova Scotia. In general, lack of motivation, experience, and knowledge of the importance and benefits of an active lifestyle as well as a shortage of senior-friendly physical activity opportunities were highlighted as the key barriers to participating in an active lifestyle and to the low levels of physical activity for older adults in Nova Scotia.

A summary of important issues and recognized gaps is listed below:

Physical Activity Promotion & Communication

- Older adults want to take part in the consultation process at the community level to determine what they need and want for active living and physical activity opportunities.
- There appears to be a lack of health promotion regarding the importance and benefits of physical activity for healthy, positive aging. Not all older adults are sufficiently aware; more effort needs to be directed to counter this lack of knowledge.
- Not enough public awareness exists regarding what is available for older adults in their communities to achieve active living and increased physical activity levels.
- There is a desire for more local media (e.g., cable, radio, newsletters, newspaper) to air public service announcements (PSAs) about activities available to older adults.
- Not enough family physicians, health professionals or practitioners are encouraging older adults to be more physically active.
- More encouragement is needed from family and friends to encouraging older adults to participate in an active lifestyle.

Interventions and Program

- No one organization or entity is arranging and coordinating active living and physical opportunities for older adults.
- Not all areas have a *Physical Activity Strategy* for their community or region. The development of such a plan of action may help to focus efforts and harmonize agencies and organizations to work

together toward increasing healthy, active aging.

- A clear method or action plan for older adults who have barriers to participating in an active lifestyle in the community and institutional settings does not exist. There are no pre-determined solutions in place for dealing with the barriers related to participating in physical activity opportunities (e.g., home based programs, subsidized classes for low income, or assistance with equipment purchase).
- There is a lack of opportunity for older adults to participate in physical activity opportunities close to their community or to provide assistance with transportation to enable attendance (i.e., organize car pools with active seniors as the drivers). Other suggestions included exercise classes offered at seniors' housing complexes and apartments or the creation of an in-home or home-care exercise program.
- More opportunities that are "senior friendly" are needed. Providing recommendations to community or recreation facilities, retail stores and institutions for making their premises accessible and affordable to older adults is also needed.
- A coordinated intervention or program needs to be developed that motivates and encourages older adults to increase physical activity and that contacts them directly by telephone or via email messaging.

Education and Training

- There is a shortage of certified instructors and trained volunteers. The skills of a certified instructor need to include the ability to make exercise fun and fulfilling and contain a social aspect.
- There is a lack of education and training opportunities for stakeholders (i.e., workshops and conferences to learn more about physical activity and older adults).
- There is a need for education and awareness directed toward older adults explaining the benefits of exercise, to help develop an increased awareness that an active life style is compatible with healthy aging and will improve quality of life.
- There is need to host 'Seniors' Days' at local recreation facilities or gyms and invite older adults to try out the facilities and activities available in their region.

Infrastructure

- There is a lack of by-laws and legislation that require developers to provide green space, sidewalks and opportunities for physical activity within planned developments.
- There is a lack of an infrastructure for active living (e.g., active transportation, trails, sidewalks, sidewalk/trail snow removal and regular maintenance).
- In some cases certain areas of the province are not taking advantage of all the tools and resources available in recreation centres, seniors' centres, community centres and fitness facilities.
- Some areas do not have a suitable location for physical activity opportunities (e.g., recreation centre, seniors' centre, community centre, fitness centre, community hall).
- Lack of architectural modifications, installation of lifts, elevators, barrier-free washrooms, work spaces, improved lighting, landscaping for accessibility for users of wheelchairs or other mobility devices.

Funding

- There is a lack of sustainable long term funding opportunities for the development of programs, classes, resources, and equipment purchase.
- More funding options need to be offered to seniors' clubs and councils to develop programs and opportunities.
- There is a need for funding for fitness leadership opportunities for individuals who want to be trained to conduct older adult physical activity groups or sessions.
- A reduced fee structure or program available for older adults on a fixed income who want to become more physical active does not exist.
- Income tax credits are not available for money spent on physical activity fees and classes. An income tax credit is strongly desired to help offset the costs of participation.
- There is a lack of financial sponsorship from the business and corporate sector to help increase active living and physical activity opportunities for older adults. Sponsorship tends to be focused mainly on children and youth.
- More funding needs to be established for maintaining (including snow removal) safe sidewalks and trails.

Resource Clearinghouse Development

Sixty-three percent of survey respondents (63%) favoured the development of a resource clearinghouse. Seniors who participated in the focus groups were apprehensive about the development of a resource clearinghouse when it was first introduced. The main concern voiced by participants was a fear the establishment and cost to maintain a new resource would take funds from local recreation departments or associations. If this concern was addressed seniors would be in support of the development. As well, since no one organization or entity is arranging and coordinating active living and physical activity opportunities for older adults a resource clearinghouse would help to focus efforts and information sources meant to increase active living and physical activity opportunities among older adults.

The preference for accessing information from a resource clearinghouse was via an internet web-based site followed by printed materials sent in the mail. Clearly, having all options to access information was valued by all participants. The concept of a resource clearinghouse should be initially promoted through public presentations and mail flyers.

The features of a resource clearinghouse that were identified include:

- Compiling a regional/local inventory of available programs, services, and infrastructures for increasing active living and physical activity opportunities;
- Collecting, organizing, and disseminating information on education and training opportunities, funding opportunities and jobs and volunteer opportunities;
- Providing a resource material lending library;
- Providing a provincial e-mail list-serve for networking and information sharing among practitioners;
- Providing opportunities for sharing success stories and highlighting 'active senior role models'; and
- A resource library with resource material for loan (e.g., VHS, DVD, CD-ROM).

The following suggestions were cited most often as being the *most useful information to receive* on older adults and increasing physical activity levels during the needs assessment phase:

- A list of local resources and opportunities for older adults;
- Motivation tips and the different activity options seniors could participate in to increase active living and physical activity levels at home and in the community;
- Recommended resource materials;
- List of web sites and important organizations; and
- List of internet resources available for downloading and printing.

Recommendations

Recommendations were developed using results from the evaluation and needs assessment phases of the project.

Development of Physical Activity Strategies

In light of the fact that not all areas have a *Physical Activity Strategy* or have made concentrated efforts to address the needs of older adults in the planning of recreation activities in their regions or areas, it is recommended regions or areas be strongly encouraged to develop *Physical Activity Strategies* that address the needs of older adults. Beginning this process would help develop and establish goals as well as an action plan that would focus efforts and potentially encourage organizations and agencies to work together with respect to increasing active living and physical activity opportunities targeted towards older adults.

Roles for Older Adults

- It is imperative that older adults be consulted during the planning, development, implementation and evaluation of active living and physical activity information resources, programs and opportunities.
- Encourage peers to become more physically active and advocate for the development of more active living, physical activity opportunities.
- Participate in local activities and opportunities to increase active living and levels of physical activity. Take part in local events hosted by seniors' councils and other local organizations (i.e., recreation programs, the Seniors' Games, Seniors' Wellness Clinics).

Physical Activity Promotion and Communication

- Many older adults are not motivated to lead an active lifestyle. A coordinated program is needed to support and encourage older adults to participate in physically active programming and opportunities. Direct contact, removing barriers to active living (e.g., cost, transportation, well maintained trails, sidewalks, etc. all year round) and welcoming environments are imperative.
- Develop a physical activity education and awareness campaign geared toward older adults that encourages them to participate in active living and daily physical activity.
- Develop specific social marketing campaign directed toward older adults via all types of media on an ongoing basis.
- Information on the resource clearinghouse, when developed, should be available in places older adults frequently gather (e.g., seniors' centres, post offices, shopping malls, churches, physicians' offices, specimen collection sites, drugstores, etc.).
- Develop a means of communicating and networking for individuals and associations interested in creating active living opportunities for older adults.

Interventions and Program

- Develop interventions that use multiple approaches to increase physical activity levels. Provide interventions or programs that incorporate education and health promotion, community-based initiatives and home-based programs to increase physical activity levels among older adults.
- More programs and opportunities must be accessible and developed in the communities where older adults live (e.g., seniors' complexes or apartment units).
- A coordinated intervention or program needs to be developed in a manner that motivates and encourages older adults to increase physical activity; direct by telephone or via email messaging is an important program component.
- More "senior friendly" opportunities are considered necessary. Providing recommendations to community or recreation facilities, retail stores and institutions for making their premises accessible and affordable to older adults is needed.
- More opportunities close to their community are needed for older adults or assistance with transportation considered (e.g., organize car pools with active seniors as the drivers). Other suggestions included exercise classes offered at seniors' housing complexes and apartments or the creation of an in-home or home-care exercise program.
- Develop an intervention or action plan for older adults who have barriers to participating in an active lifestyle in the community and/or institutional setting. Have solutions in place for dealing with barriers to participation in physical activity (e.g., home based programs, subsidized classes for low income, or assistance with equipment purchase).

Education and Training

- Host regional workshops and presentations highlighting physical activity interventions for stakeholders' staff involved in providing programming for older adults.
- Develop education and training opportunities for health professionals (including physicians) regarding the importance and benefits of physical activity among older adult populations. Health professionals are often in contact with older adults due to their use of the health care system.
- Generate a funding envelope to provide more training for individuals to become certified as *Older Adult Fitness Professionals* in all areas of the province.
- Develop education and awareness materials for older adults on the benefit of exercise; underscore that an active life style is compatible with aging and will improve quality of life.

Funding

- Ensure sustainability for active living and physical activity opportunities by granting core funding that is not tied to the political cycle; base funding on the needs of older adults and the community. Provide funding for infrastructure, administration, and equipment not simply program development.
- Establish sustainable long term funding opportunities for the development of new programs, classes, resource materials, and equipment purchases where needs have been fully identified through an evaluation process and needs assessment.
- Apply more funding to existing programs, especially those programs that have been evaluated and identified as increasing the level of physical activity among older adults. Provide sustainable funding for organizations to allow them to plan in the long term.
- Develop financial incentives for seniors' organizations and centres to create more programs and education and awareness sessions on active living and physical activity levels among older adults.

More funding must be directed to seniors' wellness and programming for active living. Essentially, increase the number of opportunities that better meet the needs of older adults.

- Create income tax credits for older adults for money spent on physical activity fees and classes. An income tax credit is strongly desired to help offset the cost of participation.
- Develop a fee structure to include a reduced fee structure or make programs available for older adults on a fixed income who want to become more physically active. Advocate for decreased membership fees for older adults at local recreation centers and private gyms. Provide funding to develop in-home activities for older adults unable to attend community programming.

Infrastructure

- Advocate for the development of by-laws and legislation that require developers to provide green space, sidewalks and opportunities for physical activity within planned developments.
- Develop infrastructure for active transportation & maintenance of these routes including snow removal during the winter (e.g., trails, sidewalks, bike routes).
- Create awareness around the architectural modifications available to increase the use of recreation facilities and centres by older adults (e.g., installation of lifts, elevators, barrier-free washrooms, improved lighting, landscaping for accessibility for users of wheelchairs or other mobility devices).

Resource Clearinghouse Development

It is recommended that a resource clearinghouse be established. No one organization or entity is arranging and coordinating active living and physical activity opportunities for older adults. Therefore, a resource clearinghouse would focus efforts and provide a credible information source for seniors, practitioners and community leaders interested in active living and physical activity opportunities for older adults in Nova Scotia.

The recommended features and activities to be undertaken by a resource clearinghouse include:

- Compiling a regional/local inventory of available programs, services, and infrastructures for increasing active living and physical activity opportunities for older adults;
- Collecting, organizing, and disseminating information regarding education and training opportunities, funding opportunities and job and volunteer opportunities;
- Providing a resource material lending library;
- Providing provincial e-mail list-serve for networking and information sharing among practitioners;
- Provide opportunities for sharing success stories and highlighting 'active senior role models'; and
- A resource library with resource material for loan (e.g. VHS, DVD, CD-ROM).

Conclusion

Implementing the recommendations in this report will require collaboration among stakeholders. Cooperation, coordination and communication will be pivotal in planning the implementation of the recommendations designed to increase active living and physical activity opportunities among older adults. The population in Nova Scotia is aging and a strong effort has to be made to ensure that older adults are able to thrive and enjoy later years without the complication of chronic diseases and disabilities more likely to occur in a sedentary lifestyle. Regular physical activity and participation in an active lifestyle are demonstrated practices and will only help to ensure that quality of life and aging is an enjoyable experience.

Nova Scotia has taken a significant beginning step. The next steps involve committed resources directed at increasing the knowledge base in this province as it relates to the benefit of older adults leading healthy, active lifestyles. It seems clear that a positive next step would be the creation of a resource clearinghouse together with the funding to ensure the clearinghouse is kept current and focused on the needs of older adults in Nova Scotia.

References Cited

- Edwards, P., & Mawani, A. (2006). *Healthy Aging in Canada: A New Vision, A Vital Investment From Evidence to Action*. Health Canada, Federal/Provincial/Territorial Committee of Officials (Seniors), Not for Distribution.
- Ferney S, & Marshall A. (2006). Website physical activity interventions: preferences of potential users. *Health Educ Res*. Aug;21(4):560-6. Epub 2006 May 15.
- Health Canada. (2002). *Healthy Aging: Physical Activity and Older Adults*. Ottawa: Health Canada. Retrieved January 2007 from <http://dsp-psd.communication.gc.ca/Collection/H39-612-2002-4E.pdf>.
- Hornik, R.C. (2002). Exposure: Theory and evidence about all the ways it matters. *Social Marketing Quarterly*, 8(3), 31-37.
- Nova Scotia Department of Health. (2006). *Canadian Community Health Survey Topics Cycle 3.1 Report 1: Physical Activity in Nova Scotia*. Halifax, NS: Nova Scotia Department of Health. Retrieved January 2007 from http://www.gov.ns.ca/health/downloads/cchs_physical_activity_2005.pdf.
- Government of Canada. (2005). *Pan Canadian Integrated: Healthy Living Strategy*. Ottawa, ON: Secretariat for the Intersectoral Healthy Living Network, F/P/T Healthy Living Task Group, F/P/T Advisory Committee on Population Health and Health Security. Retrieved April 2007 from http://www.phac-aspc.gc.ca/hl-vs-strat/pdf/hls_e.pdf.
- Steele R, Mummery KW, & Dwyer T. (2007). Development and process evaluation of an Internet-based physical activity behaviour change program. *Patient Educ Couns*. 2007 Apr 6; [Epub ahead of print].
- Spittaels H., & De Bourdeaudhuij I. (2006). Implementation of an online tailored physical activity intervention for adults in Belgium. *Health Promot Int*. Dec;21(4):311-9.

Appendix 1 Journal Articles

Sorted by Date

1. Wellman NS, Kamp B, Kirk-Sanchez NJ, Johnson PM. (2007). Eat better & move more: a community-based program designed to improve diets and increase physical activity among older Americans. *Am J Public Health*. Apr;97(4):710-7. Epub 2007 Feb 28.

National Resource Center on Nutrition, Physical Activity and Aging, Department of Dietetics and Nutrition, Stempel School of Public Health, Florida International University, Miami, FL 33199, USA. nancy.wellman@fiu.edu

Abstract: OBJECTIVES: We assessed outcomes of an integrated nutrition and exercise program designed for Older Americans Act Nutrition Program participants as part of the Administration on Aging's You Can! Campaign. METHODS: A 10-site intervention study was conducted. Pre-intervention and post-intervention assessments focused on nutrition and physical activity stages of change, self-reported health status, dietary intakes, physical activity, and program satisfaction. RESULTS: Of 999 enrollees, the 620 who completed the program were aged 74.6 years on average; 82% were women, and 41% were members of racial/ethnic minority groups. Factors associated with program completion were site, health conditions, and nutrition risk. Seventy-three percent and 75% of participants, respectively, made a significant advance of 1 or more nutrition and physical activity stages of change; 24% reported improved health status. Daily intake of fruit increased 1 or more servings among 31% of participants; vegetables, 37%; and fiber, 33%. Daily steps increased 35%; blocks walked, 45%; and stairs climbed, 24%. Program satisfaction was 99%. CONCLUSIONS: This easy-to-implement program improves diets and activity levels. Local providers should offer more such programs with the goal of enabling older Americans to take simple steps toward successful aging.

2: Arai T, Obuchi S, Inaba Y, Nagasawa H, Shiba Y, Watanabe S, Kimura K, & Kojima M. (2007). The effects of short-term exercise intervention on falls self-efficacy and the relationship between changes in physical function and falls self-efficacy in Japanese older people: a randomized controlled trial. *Am J Phys Med Rehabil*. Feb;86(2):133-41.

Graduate School of Medical Science, Kitasato University, Sagamihara, Kanagawa, Japan.

Abstract: OBJECTIVE: To evaluate the effects of short-term exercise intervention on falls self-efficacy and to evaluate the relationships between baseline falls self-efficacy and changes in physical function in older people. DESIGN: Single-blinded randomized controlled trial. The participants were 171 subjects aged 65 and older. They were randomly assigned into an exercise intervention group or a health education group. The subjects in the exercise intervention group performed an exercise program for 3 mos. Falls self-efficacy was measured using the falls efficacy scale (FES). The measurements of physical function included static and dynamic balance, walking velocity, flexibility, and strength. RESULTS: There was no significant improvement of FES in either group. But there were significant negative correlations between baseline FES score and the change in maximum walking velocity ($r = -0.29$, $P < 0.018$) and knee extensor strength ($r = -0.25$, $P < 0.040$). Linear regression analysis showed that the change in static balance was related to baseline FES. CONCLUSIONS: The results suggest that a short-term exercise intervention had no effect, possibly because of the high baseline FES scores of the participants, on the confidence of community-dwelling older persons. However, the negative association between FES score and increases in some measures of function suggest that short-term exercise may be beneficial to a subset of older persons with lower FES scores.

3: Sims J, Hill K, Davidson S, Gunn J, Huang N. (2006). Exploring the feasibility of a community-based strength training program for older people with depressive symptoms and its impact on depressive symptoms. *BMC Geriatr.* Nov 30;6:18.

School of Physiotherapy, University of Melbourne, 200 Berkeley Street, Carlton, Victoria 3053, Australia. j.sims@unimelb.edu.au

Abstract: BACKGROUND: Depression is a disabling, prevalent condition. Physical activity programs may assist depression management in older people, ameliorate co-morbid conditions and reduce the need for antidepressants. The UPLIFT pilot study assessed the feasibility of older depressed people attending a community-based progressive resistance training (PRT) program. The study also aimed to determine whether PRT improves depressive status in older depressed patients. METHODS: A randomized controlled trial was conducted. People aged > or = 65 years with depressive symptoms were recruited via general practices. Following baseline assessment, subjects were randomly allocated to attend a local PRT program three times per week for 10 weeks or a brief advice control group. Follow-up assessment of depressive status, physical and psychological health, functional and quality of life status occurred post intervention and at six months. RESULTS: Three hundred and forty six people responded to the study invitation, of whom 22% had depressive symptoms (Geriatric Depression Scale, GDS-30 score > or = 11). Thirty two people entered the trial. There were no significant group differences on the GDS at follow-up. At six months there was a trend for the PRT intervention group to have lower GDS scores than the comparison group, but this finding did not reach significance ($p = 0.08$). More of the PRT group (57%) had a reduction in depressive symptoms post program, compared to 44% of the control group. It was not possible to discern which specific components of the program influenced its impact, but in post hoc analyses, improvement in depressive status appeared to be associated with the number of exercise sessions completed ($r = -0.8$, $p < 0.01$). CONCLUSION: The UPLIFT pilot study confirmed that older people with depression can be successfully recruited to a community based PRT program. The program can be offered by existing community-based facilities, enabling its ongoing implementation for the potential benefit of other older people.

4: Jancey J, Howat P, Lee A, Clarke A, Shilton T, Fisher J, & Iredell H. (2006). Effective recruitment and retention of older adults in physical activity research: PALS study. *Am J Health Behav.* Nov-Dec;30(6):626-35.

Western Australian Centre for Health Promotion Research, School of Public Health, Curtin University, Perth, Western Australia 6845. j.jancey@curtin.edu.au

Abstract: OBJECTIVES: To develop strategies to recruit and retain inactive older adults into a physical activity program. METHODS: Names of 7378 older adults were obtained from 60 neighborhoods. Then, 6401 potential subjects were matched to telephone numbers and phoned. Subjects meeting the screening criteria were invited to join the program ($n = 4209$). Walk leaders and social support were used to enhance retention. RESULTS: Five hundred seventy-three subjects were recruited (260 intervention and 313 control). The respective participation rate was 12.6% (260/2056) and 14.5% (313/2153), with low attrition of 31.9% (83/260) and 24.6% (77/313). CONCLUSION: Effective recruitment and retention strategies were identified.

5: Zizzi S, Goodrich D, Wu Y, Parker L, Rye S, Pawar V, Mangone C, & Tessaro I. (2006). Correlates of physical activity in a community sample of older adults in Appalachia. *J Aging Phys Act.* Oct;14(4):423-38.

Sport and Exercise Psychology Program, School of Physical Education, West Virginia University, Morgantown, WV, USA.

Abstract: Although much has been learned about the global determinants of physical activity in adults, there has been a lack of specific focus on gender, age, and urban/rural differences. In this church-based community sample of Appalachian adults ($N = 1,239$), the primary correlates of physical activity included age, gender, obesity, and self-efficacy. Overall, 42% of all participants and 31% of adults age 65 years or older met recommended guidelines for physical activity, which suggests that most participants do not engage in adequate levels of physical activity. Of participants who met physical activity guidelines, the most common modes of

moderate and vigorous activity were walking briskly or uphill, heavy housework or gardening, light strength training, and biking. These particular activities that focus on building self-efficacy might be viable targets for intervention among older adults in rural communities.

6: Diabetes Prevention Program Research Group; Crandall J, Schade D, Ma Y, Fujimoto WY, Barrett-Connor E, Fowler S, Dagogo-Jack S, & Andres R. (2006). The influence of age on the effects of lifestyle modification and metformin in prevention of diabetes. *J Gerontol A Biol Sci Med Sci*. Oct;61(10):1075-81.

**Diabetes Prevention Program Coordinating Center, The Biostatistics Center,
George Washington University, 6100 Executive Boulevard, Suite 750, Rockville, MD 20852, USA.**

Abstract: BACKGROUND: The incidence of type 2 diabetes increases with age. It is unknown whether interventions to prevent diabetes are as effective in elderly persons as in younger adults. METHODS: The Diabetes Prevention Program (DPP) demonstrated that an intensive lifestyle intervention (ILS) or metformin could prevent or delay diabetes. A predefined secondary outcome of DPP was to determine if treatment effects varied by age. RESULTS: At baseline, participants aged 60-85 years were leaner and had the best insulin sensitivity and lowest insulin secretion compared to younger age groups. Diabetes incidence rates did not differ by age in the placebo group, but ILS was more effective with increasing age (6.3, 4.9, and 3.3 cases per 100 person-years, in the 25-44, 45-59, and 60-85 year age groups, respectively; $p(\text{trend}) = .007$). Participants aged 60-85 years had the most weight loss and metabolic equivalent (MET)-hours of physical activity. The metformin group showed a trend toward higher diabetes incidence among older participants (6.7, 7.7, and 9.3 cases per 100 person-years in the 25-44, 45-59, and 60-85 year age groups, respectively; $p(\text{trend}) = .07$); and diabetes risk increased with age (hazard ratio [age 60-85 vs 25-44] 1.63, $p = .02$), after adjusting for the greater weight loss in the 60-85 year age group. CONCLUSIONS: Lifestyle modification was exceptionally effective in preventing diabetes in older individuals; this finding was largely explained by greater weight loss and physical activity. The limited effectiveness of metformin in older persons may reflect age-related differences in insulin action and secretion. A lifestyle modification program can be recommended for older individuals at high risk for type 2 diabetes.

7: Cyarto EV, Brown WJ, & Marshall AL. (2006). Retention, adherence and compliance: important considerations for home- and group-based resistance training programs for older adults. *J Sci Med Sport*. Oct;9(5):402-12. Epub 2006 Sep 5.

**School of Human Movement Studies, The University of Queensland, Brisbane, Qld
4072, Australia. ecyarto@hms.uq.edu.au**

Abstract: Reports on the efficacy of physical activity intervention trials usually only include discussion of the primary outcomes. However, assessing factors such as participant retention, adherence and compliance can assist in the accurate interpretation of the overall impact of a program in terms of reach and appeal. A quasi-randomized trial was carried out to assess and compare retention and adherence rates, and compliance with, a twice weekly resistance training program provided either individually at home or in a group format. Retirement villages ($n=6$) were assigned to either 'Have A Try' (HAT, home-based) or 'Come Have A Try' (CHAT, group-based); both programs included nine strength and two balance exercises. The program involved a 20-week Intervention Phase a 24-week Maintenance Phase and a 20-week On-going Maintenance Phase. One hundred and nineteen participants (mean age 80 ± 6 years) were recruited (HAT=38, CHAT=81). There was no difference in retention rates at the end of the Intervention Phase, but significantly more HAT than CHAT participants had dropped out of the study ($p < 0.01$) after the Maintenance Phase and the On-going Maintenance Phase. During the Intervention Phase, over half the HAT and CHAT participants completed $>$ or $=75\%$ of the prescribed activity sessions, but adherence was significantly greater in CHAT than HAT during the Maintenance Phase ($p < 0.01$). Participants in CHAT were significantly more compliant than HAT participants ($p < 0.05$). Both home- and group-based formats were successful over the short-term, but, in retirement villages, the group program had better adherence and compliance in the longer-term.

8: Tan EJ, Xue QL, Li T, Carlson MC, & Fried LP. (2006). Volunteering: a physical activity intervention for older adults--The Experience Corps program in Baltimore. *J Urban Health*. Sep;83(5):954-69.

Division of Geriatric Medicine and Gerontology, Johns Hopkins Center on Aging and Health, Baltimore, MD 21205, USA. erwin.tan@jhmi.edu

Abstract: There is compelling evidence supporting the benefits of increased regular physical activity in older adults. The Experience Corps program in Baltimore MD was designed in part as a community based approach to increasing physical activity that would also appeal to older adults who have historically not utilized health promotion programs. The Baltimore Experience Corps program places older volunteers in public elementary schools for 15 hrs a week in roles designed to improve the academic outcomes of children and, simultaneously, increase the physical, cognitive and social activity of volunteers. This paper reports on the change in physical activity levels among older adults associated with participation in the Baltimore Experience Corps. In a pilot randomized controlled evaluation, older adults were randomly assigned to Experience Corps (EC participants) or a waiting list control group. Ages ranged from 59-86 years, 96% were African American, 94% were women, and 84% had annual incomes less than \$15,000. EC participants were required to serve ≥ 15 hrs a week. At follow-up after 4-8 months, an analysis of 113 randomized volunteers revealed 53% of the EC participants were more active than the previous year by self-report, as compared to 23% of the controls ($p < 0.01$). When adjusted for age, gender and education, there was a trend toward increased physical activity in the EC participants as calculated by a kilocalorie per week increase of 40%, versus a 16% decrease in the controls ($p = 0.49$). EC participants who reported "low activity" at baseline experienced an average 110% increase in their physical activity at follow-up. Among the controls who were in the "low activity" group at baseline, there was, on average, only a 12% increase in physical activity ($p = 0.03$). Among those who were previously active, there was no significant difference ($p = 0.30$). The pilot results suggest that a high intensity volunteer program that is designed as a health promotion intervention can lead, in the short-term, to significant improvements in the level of physical activity of previously inactive older adult volunteers.

9: Demark-Wahnefried W, Clipp EC, Morey MC, Pieper CF, Sloane R, Snyder DC, & Cohen HJ. (2006). Lifestyle intervention development study to improve physical function in older adults with cancer: outcomes from Project LEAD. *J Clin Oncol*. Jul 20;24(21):3465-73.

School of Nursing, Department of Surgery, Older Americans Independence Center, Duke University Medical Center, Durham, NC 27710, USA. demar001@mc.duke.edu

Abstract: PURPOSE: Declines in physical functioning (PF) among elderly cancer patients threaten quality of life and the ability to maintain independence. Adherence to healthy lifestyle behaviors may prevent functional decline. PATIENTS AND METHODS: Project Leading the Way in Exercise and Diet (LEAD), an intervention development study of the Pepper Older Americans Independence Center, aimed to determine whether breast and prostate cancer survivors (age 65+ years) assigned to a 6-month home-based diet and exercise intervention experienced improvements in PF when compared with an attention control arm receiving general health information. An accrual target was set at 420, and PF (Short Form-36 subscale), physical activity (Community Healthy Activities Models Program for Seniors), and diet quality (index from 3-day recalls) were assessed at baseline and at 6 and 12 months (6 months after intervention). RESULTS: This developmental project did not achieve its accrual target (N = 182); however, PF change scores were in the direction and of the magnitude projected. Baseline to 6-month change scores in the intervention versus the control arms were as follows: PF, $+3.1 \text{ v } -0.5$ ($P = .23$); physical activity energy expenditure, $+111 \text{ kcal/wk v } -400 \text{ kcal/wk}$ ($P = .13$); and diet quality index, $+2.2 \text{ v } -2.9$ ($P = .003$), respectively. Differences between arms diminished during the post-intervention period. CONCLUSION: These findings suggest that home-based diet and exercise interventions hold promise in improving lifestyle behaviors among older cancer survivors, changes that trend toward improved PF. Future studies should incorporate larger sample sizes and interventions that sustain long-term effects and also take into account secular trends; these efforts will require adequate planning and resources to overcome the numerous barriers to intervening in this difficult to reach yet vulnerable population.

10: Bo M, Fontana M, Mantelli M, & Molaschi M. (2006). Positive effects of aerobic physical activity in institutionalized older subjects complaining of dyspnea. *Arch Gerontol Geriatr.* Jul-Aug;43(1):139-45. Epub 2005 Dec 6.

Section of Geriatrics, Department of Medical and Surgical Disciplines, Azienda Ospedaliera San Giovanni Battista-Molinette, C.so Bramante 88, 10126 Turin, Italy. mario.bo@unito.it

Abstract: Dyspnea is a common complaint in older subjects, but in some patients a disease responsible for this symptom is not found. We aimed to evaluate the effects of a short program of regular aerobic physical activity on dyspnea and ability to walk in a sample of older nursing home residents without evidence of cardiac and pulmonary disease. Limitation from dyspnea in daily activities was reported by 82% of residents; 34% of these individuals did not show any evidence of cardiac or pulmonary disease. In these subjects a 4-week period of daily exercise training compared with no intervention resulted in a significant improvement of dyspnea and endurance to walking. Dyspnea is an extremely common complaint in elderly residents in long-term facilities. About one-third of these subjects do not show evidence of cardiac or pulmonary disease. In these individuals a short period of exercise training has favorable effects on dyspnea and ability to walk.

11: Killey B, & Watt E. (2006). The effect of extra walking on the mobility, independence and exercise self-efficacy of elderly hospital in-patients: a pilot study. *Contemp Nurse.* Jul;22(1):120-33.

Acute Care Elderly Unit, Barwon Health, Geelong: Victoria, Australia.

Abstract: There is evidence in the literature that exercise improves the health and well-being of frail older people. Little is known however of the relationship between exercise, mobility and functional independence in a frail elderly acute care hospital in-patient population. The aim of this study is to examine the effect of two extra walks per day on the mobility, independence and exercise self-efficacy of a population of elderly medical unit in-patients in an acute regional public hospital. Fifty-five subjects were recruited from the population of three medical units over a five-month period. The subjects were then allocated into a control (non-intervention) and an intervention group. The control group received the standard assistance to walk as part of their normal care. Participants in the intervention group were taken, twice a day, seven days a week by the unit nursing staff, for extra assisted walking to their comfortable limit. Mobility was measured by distance able to be walked. Independence was measured by the Barthel scale, and exercise self-efficacy by the self-efficacy exercise scale. All of the participants were assessed using these measures on admission and again at seven days. The results indicate that a walking program can increase an older person's mobility and independence which gives support to the implementation of extra walking as a worthwhile nursing intervention in this group of elderly medical unit inpatients.

12: Gary R. (2006) Exercise self-efficacy in older women with diastolic heart failure: results of a walking program and education intervention. *J Gerontol Nurs.* Jul;32(7):31-9; quiz 40-1.

Emory University, Atlanta, Georgia 30322, USA.

Abstract: The purpose of this study was to evaluate exercise self-efficacy in older women with stable New York Heart Association Functional Class II and III heart failure who were enrolled in a 12-week, home-based, low- to moderate-intensity combined walking and education program. Findings indicate that participation in a 12-week, home-based walking program improved self-efficacy for exercise adherence and workload physical function. Women in the program also improved in 6-minute walk distance, depressive symptoms, and quality of life at 12 weeks, while control participants had no change on any measures. These results support that an exercise intervention that progresses gradually has potential to improve exercise self-efficacy, physical function, depressive symptoms, and quality of life in women with heart failure compared to education alone.

13: de Jong J, Lemmink KA, Stevens M, de Greef MH, Rispens P, King AC, & Mulder T. (2006). Six-month effects of the Groningen active living model (GALM) on physical activity, health and fitness outcomes in sedentary and underactive older adults aged 55-65. *Patient Educ Couns.* Jul;62(1):132-41. Epub 2005 Aug 10.

Center for Human Movement Sciences, University of Groningen, PO Box 196, 9700 AD Groningen, The Netherlands. J.de.Jong@ppsw.rug.nl

Abstract: OBJECTIVE: To determine the effects on energy expenditure, health and fitness outcomes in sedentary older adults aged 55-65 after 6-month participation in the GALM program. METHODS: In three Dutch communities, subjects from matched neighbourhoods were assigned to an intervention (n = 79) or a waiting-list control group (n = 102). The GALM program consisted of fifteen 60 min sessions once a week emphasizing moderate-intensity recreational sports activities. RESULTS: The intervention group showed significant increases in energy expenditure for recreational sports activities, other leisure-time physical activity, health indicators, and perceived and performance-based fitness. Contrary to our expectations, the same increases were found for the control group. Consequently, only significant between-group differences, favouring the intervention group, were obtained for sleep, diastolic blood pressure, perceived fitness score and grip strength. CONCLUSION: The increases in energy expenditure for physical activity from the GALM program, especially for the more intensive recreational sports activities, look promising and are in line with the expected amounts necessary to improve health. Further research is needed to evaluate long-term effects of participation in the GALM program. PRACTICE IMPLICATIONS: These results underline that GALM can be considered successful in stimulating leisure-time physical activity and improving health and fitness in older adults.

14: Marsh AP, Katula JA, Pacchia CF, Johnson LC, Koury KL, & Rejeski WJ. (2006). Effect of treadmill and overground walking on function and attitudes in older adults. *Med Sci Sports Exerc.* Jun;38(6):1157-64.

Department of Health and Exercise Science, Wake Forest University, Winston-Salem, NC 27109-7868, USA. marshap@wfu.edu

Abstract: PURPOSE: The purpose of this study was to determine whether treadmill walking, as a mode of physical activity for older adults, was comparable with overground walking when considering 1) spatiotemporal gait characteristics (walking velocity, stride length, and stride rate) at a preferred velocity and a prescribed intensity typical of many exercise prescriptions (i.e., RPE of 13); and 2) the effects on physical function (short physical performance battery (SPPB), lateral mobility, 400-m walk) and participants' attitude towards training and level of enjoyment. METHODS: Gait characteristics were measured at each participant's preferred and RPE 13 velocity during treadmill and overground walking (N=23, 74+/-4 yr). Participants were then randomized to either a treadmill or overground progressive intensity and duration walking program of 18 sessions. RESULTS: Both the preferred and RPE 13 walking velocities were significantly slower on the treadmill compared with overground ($t(22)=-10.87$, $P<0.001$ and $t(22)=-8.54$, $P<0.001$, respectively), as a result of significantly shorter stride lengths and slower stride rates. After training, there were no differences between the groups for RPE 13 velocity, SPPB or lateral mobility. However, following the intervention, the overground group completed the 400-m walk faster ($F(1,15)=6.06$, $P<0.05$), had a more favorable attitude towards training, and expressed a more favorable level of enjoyment about the training program than the treadmill group ($F(1,16)=7.5$; $P<0.05$). CONCLUSION: An overground walking program appears to offer some advantages over a treadmill walking program in older adults. Using RPE alone to regulate intensity may reduce the benefits of a treadmill walking program in older adults.

15. Forkan R, Pumper B, Smyth N, Wirkkala H, Ciol MA, Shumway-Cook A. (2006). Exercise adherence following physical therapy intervention in older adults with impaired balance. *Phys Ther.* Mar;86(3):401-10.

Department of Rehabilitation Medicine, University of Washington, Seattle, WA 98195-6490, USA.

Abstract: BACKGROUND AND PURPOSE: This study looked at adherence, and factors affecting adherence, to a prescribed home exercise program (HEP) in older adults with impaired balance following discharge from

physical therapy. **SUBJECTS:** The subjects were 556 older adults (> or =65 years of age) who were discharged from physical therapy during the period 2000 to 2003. **METHODS:** A survey was developed to determine participation in a HEP. Univariate logistic regressions identified specific barriers and motivators that were associated with exercise participation following discharge from physical therapy. **RESULTS:** Ninety percent of respondents reported receiving a HEP; 37% no longer performed it. Change in health status was the primary reason for poor adherence to a HEP. Eight barriers (no interest, poor health, weather, depression, weakness, fear of falling, shortness of breath, and low outcomes expectation) were associated with a lack of post-discharge participation in exercise. **DISCUSSION AND CONCLUSIONS:** Exercise adherence following discharge from a physical therapy program is poor among older adults. Barriers, not motivators, appear to predict adherence.

16: Kolbe-Alexander TL, Lambert EV, Charlton KE. (2006). Effectiveness of a community based low intensity exercise program for older adults. *J Nutr Health Aging.* Jan-Feb;10(1):21-9.

MRC/UCT Research Unit for Exercise Science and Sports Medicine, Department of Medicine, University of Cape Town and Chronic Diseases of Lifestyle Unit, South Africa.

Abstract: **OBJECTIVE:** The aim of this study was to assess the effectiveness of a community-based, low-intensity exercise program in older adults from socio-economically and historically disadvantaged communities. **DESIGN:** Three community centres were selected: two were allocated to the same 20-week, twice-weekly exercise program (EX1, n=38; EX2, n=32); and a third to relaxation classes (control/CTL; n=21). Measurements at baseline, 10 and 20 weeks included field tests for anthropometry, static and dynamic balance, gait, upper and lower body strength, 6-minute walk test, blood pressure, activities of daily living (ADL), instrumental activities of daily living (IADL), physical activity recall and self perceived health status. **RESULTS:** Exercise training significantly improved dynamic balance in both groups (75.1+/-31.5 vs 55.3+/-13.6 s, and 53.3+/-17.0 vs 37.0+/-10.4 s, for EX1 and EX2, respectively, $p < 0.001$ compared to CTL (57+/-27 vs 53+/-15 s). Lower body strength, as measured by the number of sit-to-stand repetitions in 10 s was also significantly improved in both EX1 and EX2 ($p < 0.001$). No significant changes occurred in the CTL group. Systolic blood pressure decreased in both EX1 and EX2 from baseline to 20 weeks (147.8+/-12.8 vs 143.9+/-3.3 mmHg and 143.0+/-13.9 vs 137.4+/-14.5 mmHg, respectively, $p < 0.009$, compared to CTL (147+/-13 to 150+/-16 mmHg). Furthermore, in a sub sample of subjects who were hypertensive at the outset, exercise intervention was associated with a significant decrease in systolic blood pressure (n=26; 146+/-14 mmHg to 140+/-14 mmHg; $p = 0.005$). Variables unaffected by exercise training were upper body strength, body composition and fat distribution, 20 m walk, cardiovascular endurance, time spent in recreational activities, self perceived health status and ADL. **CONCLUSION:** A community-based, low intensity exercise program improved dynamic balance and lower body strength in community dwelling older adults and improved blood pressure, particularly in those who were hypertensive.

17: Van Uffelen JG, Hopman-Rock M, Chin A Paw MJ, & Van Mechelen W. (2005). Protocol for Project FACT: a randomized controlled trial on the effect of a walking program and vitamin B supplementation on the rate of cognitive decline and psychosocial wellbeing in older adults with mild cognitive impairment [ISRCTN19227688]. *BMC Geriatr.* Dec 23;5:18.

Body@Work, Research Center Physical Activity, Work and Health, TNO-VU University Medical Center, Amsterdam, The Netherlands. j.vanuffelen@vumc.nl

Abstract: **BACKGROUND:** The prevalence of individuals with cognitive decline is increasing since the number of elderly adults is growing considerably. The literature provides promising results on the beneficial effect of exercise and vitamin supplementation on cognitive function both in cognitively healthy as well as in the demented elderly. **METHODS/DESIGN:** The design is a two-by-two factorial randomized controlled trial. The study population consists of independently living elderly, between 70 and 80 years old, with mild cognitive impairment (MCI). In the RCT the effect of two interventions, a walking program and vitamin supplementation, is examined. The walking program (WP) is a group-based program aimed at improving cardiovascular endurance; frequency two lessons a week; lesson duration one hour; program duration one year. Non-walking groups receive a placebo activity program (PAP) (i.e. low intensive non-aerobic group exercises, like stretching) with the same frequency, lesson and program duration. Vitamin supplementation consists of a single daily vitamin supplement containing 50 mg B6, 5 mg folic acid and 0,4 mg B12 for one year. Subjects not receiving vitamin supplements are daily taking an identically looking placebo pill, also for a year. Participants are randomized to

four groups 1) WP and vitamin supplements; 2) WP and placebo supplements; 3) PAP and vitamin supplements; 4) PAP and placebo supplements. Primary outcome measures are measures of cognitive function. Secondary outcomes include psychosocial wellbeing, physical activity, cardiovascular endurance and blood vitamin levels. DISCUSSION: No large intervention study has been conducted yet on the effect of physical activity and vitamin supplementation in a population-based sample of adults with MCI. The objective of the present article is to describe the design of a randomized controlled trial examining the effect of a walking program and vitamin B supplementation on the rate of cognitive decline in older adults with MCI.

18: Clark PG, Rossi JS, Greaney ML, Riebe DA, Greene GW, Saunders SD, Lees FD, & Nigg CR. (2005). Intervening on exercise and nutrition in older adults: the Rhode Island SENIOR Project. *J Aging Health*. Dec;17(6):753-78.

Program in Gerontology and Rhode Island Geriatric Education Center, University of Rhode Island, White Hall, 2 Heathman Road, Kingston, RI 02881, USA.
aging@uri.edu

Abstract: Presented are the basic design, methods, and baseline data analyses for the Study of Exercise and Nutrition in Older Rhode Islanders (SENIOR Project) an experimental study to investigate the relative effectiveness of a 12-month, stage of readiness to change-based multiple-behavior intervention (exercise and nutrition) compared to single-behavior interventions in a community-dwelling population of 1,277 older adults. Relationships between stage of readiness to change in the two target behaviors, as well as the relationship between stage of readiness and self-reported exercise levels and fruit and vegetable consumption, were examined using a combination of Pearson chi-squares, analyses of variance (ANOVA), and Spearman's rank order correlations. Stage of change (SOC) for fruit and vegetable consumption was significantly associated with the dietary measure, and SOC for exercise was associated with both the three physical activity measures and servings of fruits and vegetables per day. Overall, individual older adult's readiness to change seems largely to be behavior-specific.

19: Armit CM, Brown WJ, Ritchie CB, & Trost SG. (2005). Promoting physical activity to older adults: a preliminary evaluation of three general practice-based strategies. *J Sci Med Sport*. Dec;8(4):446-50.

School of Human Movement Studies, The University of Queensland, Australia.
christine_armit@health.qld.gov.au

Abstract: The aim of this study was to explore the feasibility of an exercise scientist (ES) working in general practice to promote physical activity (PA) to 55 to 70 year old adults. Participants were randomized into one of three groups: either brief verbal and written advice from a general practitioner (GP) (G1, N=9): or individualized counselling and follow-up telephone calls from an ES, either with (G3, N=8) or without a pedometer (G2, N=11). PA levels were assessed at week 1, after the 12-wk intervention and again at 24 weeks. After the 12-wk intervention, the average increase in PA was 116 (SD=237) min/wk: N=28, p<0.001. Although there were no statistically significant between-group differences, the average increases in PA among G2 and G3 participants were 195 (SD=207) and 138 (SD=315) min/wk respectively, compared with no change (0.36, SD=157) in G1. After 24 weeks, average PA levels remained 56 (SD=129) min/wk higher than in week 1. The small numbers of participants in this feasibility study limit the power to detect significant differences between groups, but it would appear that individualized counselling and follow-up contact from an ES, with or without a pedometer, can result in substantial changes in PA levels. A larger study is now planned to confirm these findings.

20: Kerse N, Elley CR, Robinson E, & Arroll B. (2005). Is physical activity counseling effective for older people? A cluster randomized, controlled trial in primary care. *J Am Geriatr Soc*. Nov;53(11):1951-6.

Department of General Practice and Primary Health Care, Faculty of Medical and Health Sciences, University of Auckland, Auckland, New Zealand.
n.kerse@auckland.ac.nz

Abstract: OBJECTIVES: To establish the effectiveness of the Green Prescription physical activity counseling program in increasing activity and quality of life in older community-dwelling people. DESIGN: Post hoc

subgroup analysis of a large cluster randomized, controlled trial. SETTING: One hundred seventeen doctors in 42 primary care practices (74% participation rate) in the Waikato region of New Zealand. PARTICIPANTS: Two hundred seventy sedentary primary healthcare patients aged 65 and older (67% participation rate). INTERVENTION: Patients in intervention practices prompted their primary care doctors or practice nurse to deliver brief activity counseling. A "Green Prescription" was written involving the negotiation of activity goals. Trained exercise specialists from a regional sports foundation gave follow-up telephone support over 3 months. MEASUREMENTS: Leisure moderate and vigorous physical activity, total energy expenditure, systolic and diastolic blood pressure, health-related quality of life, musculoskeletal injuries, falls, and hospitalizations. RESULTS: After 12 months of follow-up, leisure time moderate activity increased by 0.67 h/wk more in the intervention group than the control group (95% confidence interval (CI)=0.17-1.17) and energy expenditure increased by 2.67 kcal/kg per week (95% CI=0.87-4.47) more. For intervention group participants, vitality and general health scales of the 36-item Short Form showed statistically and clinically relevant improvements, and there was a decrease in hospitalizations ($P<.03$). There were no observable changes in blood pressure, injuries, or falls as a result of the Green Prescription program. CONCLUSION: This physical activity intervention improved activity, energy expenditure, health-related quality of life, and hospitalizations for older primary care patients. Systematic inclusion of the Green Prescription in routine primary health care will probably lead to health gain for older people.

22: Liu-Ambrose TY, Khan KM, Eng JJ, Lord SR, Lentle B, & McKay HA. (2005). Both resistance and agility training reduce back pain and improve health-related quality of life in older women with low bone mass. *Osteoporos Int.* Nov;16(11):1321-9. Epub 2005 Feb 9.

UBC Bone Health Research Group, BC Women's Hospital and Health Centre, Osteoporosis Program, University of British Columbia, Vancouver, BC, Canada.

The purpose of the study was to compare the effects of three different types of group-based exercise programs (resistance training, agility training and general stretching) on back pain and health-related quality of life in older (aged 75-85 years) community-dwelling women with low bone mass (i.e., osteopenia or osteoporosis). The design was a 25-week randomized controlled trial. Participating were 98 community-dwelling women with low bone mass between the ages of 75 to 85 years old. We assessed back pain and its related disability and health-related quality of life. All three types of group-based exercise programs significantly reduced back pain and its related disabilities, but only resistance and agility training significantly improved health-related quality of life in community-dwelling older women with low bone mass. Baseline physical activity level and class attendance were significant predictors of change in health-related quality of life. Change in back pain and its related disabilities after 25 weeks of exercise intervention was significantly correlated with change in health-related quality of life and changes in the domains of pain and physical function. Resistance and agility training significantly enhanced health-related quality of life and may have done so by increasing social interactions and support, enhancing self-efficacy of physical abilities and modifying the experience of back pain. These data provide valuable insight into the specifics of exercise prescription for older women with low bone mass. Future studies may wish to use individualized quality of life measures to further delineate the effects of different types of exercise on quality of life in older adults with low bone mass.

23: Jorstad-Stein EC, Hauer K, Becker C, Bonnefoy M, Nakash RA, Skelton DA, & Lamb SE. *J Aging Phys Act.* (2005). Suitability of physical activity questionnaires for older adults in fall-prevention trials: a systematic review. Oct; 13(4):461-81.

Warwick Emergency Care and Rehabilitation, Warwick Medical School, University of Warwick, Coventry, UK.

Abstract: The purpose of the study was to identify physical activity questionnaires for older adults that might be suitable outcome measures in clinical trials of fall-injury-prevention intervention and to undertake a systematic quality assessment of their measurement properties. PubMed, CINAHL, and PsycINFO were systematically searched to identify measurements and articles reporting the methodological quality of relevant measures. Quality extraction relating to content, population, reliability, validity, responsiveness, acceptability, practicality, and feasibility was undertaken. Twelve outcome measures met the inclusion criteria. There is limited evidence about the measures' properties. None of the measures is entirely satisfactory for use in a large-scale trial at present. There is a need to develop suitable measures. The Stanford 7-day Physical Activity Recall

Questionnaire and the Community Health Activities Model Program for Seniors questionnaire might be appropriate for further development. The results have implications for the designs of large-scale trials investigating many different geriatric syndromes.

24: Liu-Ambrose TY, Khan KM, Eng JJ, Gillies GL, Lord SR, & McKay HA. (2005). The beneficial effects of group-based exercises on fall risk profile and physical activity persist 1 year post-intervention in older women with low bone mass: follow-up after withdrawal of exercise. *J Am Geriatr Soc. Oct;53(10):1767-73.*

UBC Bone Health Research Group: Center for Hip Health, BC Women's Hospital and Health Center Osteoporosis Program, Vancouver, British Columbia, Canada.

Abstract: OBJECTIVES: To determine whether exercise-induced reductions in fall risk are maintained in older women 1 year after the cessation of three types of interventions--resistance training, agility training, and general stretching. DESIGN: One-year observational study. SETTING: Community. PARTICIPANTS: Ninety-eight women aged 75 to 85 with low bone mass. MEASUREMENTS: Primary outcome measure was fall risk, measured using the Physiological Profile Assessment tool. Secondary outcome measures were current physical activity level, assessed using the Physical Activity Scale for the Elderly, and formal exercise participation, assessed using an interview. RESULTS: At the end of the follow-up, the fall risk of former participants of all three exercise programs was maintained (i.e., still reduced) from trial completion. Mean fall risk value at the end of follow-up was 43.3% lower than mean baseline value in former participants of the resistance-training group, 40.1% lower in the agility-training group, and 37.4% lower in the general stretching group. Physical activity levels were also maintained from trial completion. Specifically, there was a 3.8% increase in physical activity from baseline for the resistance-training group, a 29.2% increase for the agility-training group, and a 37.7% increase for the general stretching group. CONCLUSION: After three types of group-based exercise programs, benefits are sustained for at least 12 months without further formal exercise intervention. Thus, these 6-month exercise interventions appeared to act as a catalyst for increasing physical activity with resultant reductions in fall risk profile that were maintained for at least 18 months in older women with low bone mass.

25: Pang MY, Eng JJ, Dawson AS, McKay HA, & Harris JE. (2005). A community-based fitness and mobility exercise program for older adults with chronic stroke: a randomized, controlled trial. *J Am Geriatr Soc. Oct;53(10):1667-74.*

School of Rehabilitation Sciences, University of British Columbia, Vancouver, British Columbia, Canada.

Abstract: OBJECTIVES: To examine the effects of a community-based group exercise program for older individuals with chronic stroke. DESIGN: Prospective, single-blind, randomized, controlled intervention trial. SETTING: Intervention was community-based. Data collection was performed in a research laboratory located in a rehabilitation hospital. PARTICIPANTS: Sixty-three older individuals (aged > or = 50) with chronic stroke (post-stroke duration > or = 1 year) who were living in the community. INTERVENTION: Participants were randomized into intervention group (n=32) or control group (n=31). The intervention group underwent a fitness and mobility exercise (FAME) program designed to improve cardio-respiratory fitness, mobility, leg muscle strength, balance, and hip bone mineral density (BMD) (1-hour sessions, three sessions/week, for 19 weeks). The control group underwent a seated upper extremity program. MEASUREMENTS: Cardio-respiratory fitness (maximal oxygen consumption), mobility (6-minute walk test), leg muscle strength (isometric knee extension), balance (Berg Balance Scale), activity and participation (Physical Activity Scale for Individuals with Physical Disabilities), and femoral neck BMD (using dual-energy x-ray absorptiometry). RESULTS: The intervention group had significantly more gains in cardio-respiratory fitness, mobility, and paretic leg muscle strength than controls. Femoral neck BMD of the paretic leg was maintained in the intervention group, whereas a significant decline of the same occurred in controls. There was no significant time-by-group interaction for balance, activity and participation, non-paretic leg muscle strength, or non-paretic femoral neck BMD. CONCLUSION: The FAME program is feasible and beneficial for improving some of the secondary complications resulting from physical inactivity in older adults living with stroke. It may serve as a good model of a community-based fitness program for preventing secondary diseases in older adults living with chronic conditions.

26: Muntner P, Gu D, Wildman RP, Chen J, Qan W, Whelton PK, & He J. (2005). Prevalence of physical activity among Chinese adults: results from the International Collaborative Study of Cardiovascular Disease in Asia. *Am J Public Health*. Sep;95(9):1631-6. Epub 2005 Jul 28.

Department of Epidemiology, Tulane University SPHTM, 1430 Tulane Ave, SL-18, New Orleans, LA 70112, USA. pmuntner@tulane.edu

Abstract: OBJECTIVES: Determining physical activity levels in the community provides a context for the development and implementation of programs aimed at increasing these activity levels. Therefore, we assessed overall, work-related, and leisure-time physical activity in a representative sample of Chinese adults, aged 35 to 74 years, using data from the International Collaborative Study of Cardiovascular Disease in Asia. METHODS: Being physically active was defined as participating in 30 or more minutes of moderate or vigorous activity daily. Work-related and leisure-time physical activities were defined as being physically active and participating in any moderate or vigorous activity at work or during leisure time, respectively. RESULTS: In rural and urban China, 78.1% and 21.8% of residents, respectively, were physically active; 75.8% and 16.5%, respectively, participated in work-related activity; and 28.9% and 7.9%, respectively, participated in leisure-time physical activity. In both rural and urban settings, younger adults, men, and southern residents were more likely to be physically active and to participate in work-related and leisure-time physical activity than older adults, women, and northern residents. CONCLUSIONS: Intervention strategies to promote leisure-time physical activity, especially among urban residents, should be considered a major health priority in China.

27: Englund U, Littbrand H, Sondell A, Pettersson U, & Bucht G. (2005). A 1-year combined weight-bearing training program is beneficial for bone mineral density and neuromuscular function in older women. *Osteoporos Int*. Sep;16(9):1117-23. Epub 2005 Jan 27.

Geriatric Medicine, Department of Community Medicine and Rehabilitation, Umea University, 90187 Umea, Sweden. undis.englund@germed.umu.se

Abstract: Forty-eight community living women 66-87 years old volunteered to participate in a 12-month prospective, randomized, controlled, trial. The aim was to determine if a combined weight-bearing training program twice a week would be beneficial to bone mineral density and neuromuscular function. The participants were pairwise age-matched and randomly assigned to either an exercise group (n=24) or a control group (n=24). Twenty-one subjects in the intervention group and 19 in the control group completed the study. The exercise program lasted for 50 min and consisted of a combination of strengthening, aerobic, balance and coordination exercises. The mean percentage of scheduled sessions attended for the exercise group was 67%. At the completion of the study, the intervention group showed significant increments in bone mineral density of the Ward's triangle (8.4%, P<0.01) as well as improvement in maximum walking speed (11.4%, P<0.001) and isometric grip strength (9.9%, P<0.05), as compared to the control group. The conclusion was that a combined weight-bearing training program might reduce fracture risk factors by improving bone density as well as muscle strength and walking ability. This program could be suitable for older community living women in general, and might, therefore, have important implications for fracture prevention.

28: Li F, Fisher KJ, & Harmer P. (2005). Improving physical function and blood pressure in older adults through cobblestone mat walking: a randomized trial. *J Am Geriatr Soc*. Aug;53(8):1305-12.

Oregon Research Institute, Eugene, Oregon 97403, USA. fuzhongl@ori.org

Abstract: OBJECTIVES: To determine the relative effects of cobblestone mat walking, in comparison with regular walking, on physical function and blood pressure in older adults. DESIGN: Randomized trial with allocation to cobblestone mat walking or conventional walking. SETTING: General community in Eugene, Oregon. PARTICIPANTS: One hundred eight physically inactive community-dwelling adults aged 60 to 92 (mean age±standard deviation=77.5±5.0) free of neurological and mobility-limiting orthopedic conditions. INTERVENTION: Participants were randomized to a cobblestone mat walking condition (n=54) or regular walking comparison condition (n=54) and participated in 60-minute group exercise sessions three times per week for 16 consecutive weeks. MEASUREMENTS: Primary endpoint measures were balance (functional reach,

static standing), physical performance (chair stands, 50-foot walk, Up and Go), and blood pressure (systolic, diastolic). Secondary endpoint measures were Short Form-12 physical and mental health scores and perceptions of health-related benefits from exercise. RESULTS: At the 16-week posttest, differences between the two exercise groups were found for balance measures ($P=.01$), chair stands ($P<.001$), 50-foot walk ($P=.01$), and blood pressure ($P=.01$) but not for the Up and Go test ($P=.14$). Although significant within-group changes were observed in both groups for the secondary outcome measures, there were no differences between intervention groups. CONCLUSION: Cobblestone mat walking improved physical function and reduced blood pressure to a greater extent than conventional walking in older adults. Additional benefits of this walking program included improved health-related quality of life. This new physical activity may provide a therapeutic and health-enhancing exercise alternative for older adults.

29: Sattin RW, Easley KA, Wolf SL, Chen Y, & Kutner MH. (2005). Reduction in fear of falling through intense tai chi exercise training in older, transitionally frail adults. *J Am Geriatr Soc.* Jul;53(7):1168-78.

National Center for Injury Prevention and Control, Centers for Disease Control and Prevention, Atlanta, Georgia 30341, USA. rsattin@cdc.gov

Abstract: OBJECTIVES: To determine whether an intense tai chi exercise program could reduce fear of falling better than a wellness education (WE) program in older adults who had fallen previously and meet criteria for transitioning to frailty. DESIGN: Cluster-randomized, controlled trial of 48 weeks' duration. SETTING: Ten matched pairs of congregate living facilities in the greater Atlanta area. PARTICIPANTS: Sample of 291 women and 20 men, aged 70 to 97. MEASUREMENTS: Activity-related fear of falling using the Activities-Specific Balance Confidence Scale (ABC) and the Fall Efficacy Scale at baseline and every 4 months for 1 year. Demographics, time to first fall and all subsequent falls, functional measures, Centers for Epidemiologic Studies Depression Scale, medication use, level of physical activity, comorbidities, and adherence to interventions. RESULTS: Mean ABC was similar in both cohort groups at the time of randomization but became significantly higher (decreased fear) in the tai chi cohort at 8 months (57.9 vs 49.0, $P<.001$) and at study end (59.2 vs 47.9, $P<.001$). After adjusting for covariates, the mean ABC after 12 months of intervention was significantly greater in the tai chi group than in the WE group, with the differences increasing with time (mean difference at 12 months=9.5 points, 95% confidence interval=4.8-14.2, $P<.001$). CONCLUSION: Tai chi led to a significantly greater reduction in fear of falling than a WE program in transitionally frail older adults. The mean percentage change in ABC scores widened between tai chi and WE participants over the trial period. Tai chi should be considered in any program designed to reduce falling and fear of falling in transitionally frail older adults.

30: Hooker SP, Seavey W, Weidmer CE, Harvey DJ, Stewart AL, Gillis DE, Nicholl KL, & King AC. (2005). The California active aging community grant program: translating science into practice to promote physical activity in older adults. *Ann Behav Med.* Jun;29(3):155-65.

Prevention Research Center, University of South Carolina, Columbia, SC 29208, USA. shooker@gwm.sc.edu

Abstract: BACKGROUND: Attempts to study the translation of evidence-based physical activity interventions in community settings are scarce. PURPOSE: This project was an investigation of whether 13 diverse local lead agencies could effectively implement a choice-based, telephone-assisted physical activity promotion program for older adults based on intervention models proven efficacious in research settings. METHODS: At baseline, participants developed their own physical activity programs through an individualized planning session based on preference, health status, readiness to change, and available community resources. Thereafter, participants received regular telephone calls over a 1-year period from a trained staff member or volunteer support buddy. Additional program components consisted of health education workshops, newsletters, and group-based physical activities. Self-report data on caloric expenditure due to all and moderate or greater intensity physical activities were collected from 447 participants (M age = 68 +/- 8.6 years). RESULTS: A significant increase ($p < .0001$) from baseline to mid-intervention and intervention endpoint was observed for total weekly caloric expenditure (Mdn change = 644-707 kcal/week) and moderate or greater weekly caloric expenditure (Mdn change = 149-265 kcal/week), as well as for weekly physical activity duration and frequency. These changes were observed in participants across all sites. CONCLUSIONS: The increases in weekly caloric expenditure were commensurate with findings from several previous randomized clinical trials. The utilization of community agency staff and volunteers receiving basic training to implement essential program components proved

feasible. Very favorable levels of program satisfaction expressed by community staff, volunteer support buddies, and participants, combined with the significant increases in physical activity, warrant further dissemination of the intervention model.

31: Grahn Kronhed AC, Blomberg C, Karlsson N, Lofman O, Timpka T, & Moller M. (2005). Impact of a community-based osteoporosis and fall prevention program on fracture incidence. *Osteoporos Int.* Jun;16(6):700-6.

**Vadstena Primary Health Care Center, Jungfruvagen 5, 592 32, Vadstena, Sweden.
lotta.grahn-kronhed@lio.se**

Abstract: Associations between a 10-year community-based osteoporosis and fall prevention program and fracture incidence amongst middle-aged and elderly residents in an intervention community are studied, and comparisons are made with a control community. A health-education program was provided to all residents in the intervention community, which addressed dietary intake, physical activity, smoking habits and environmental risk factors for osteoporosis and falls. Both communities are small, semi-rural and situated in Ostergotland County in southern Sweden. The analysis is based on incidences of forearm fractures in the population 40 years of age or older, and hip fractures in the population 50 years of age or older. Data for three 5-year periods (pre-, early and late intervention) are accumulated and compared. In the intervention community, forearm fracture incidence decreased in women. There are also tendencies towards decreasing forearm fracture incidence in men, and towards decreasing trochanteric hip fracture incidences in women and in men in the late intervention period. No such changes in fracture incidences are found in the control community. Cervical hip fracture incidence did not change in the intervention and the control communities. Although the reported numbers of fractures are small (a total of 451 forearm and 357 hip fractures), the numbers are based on total community populations and thus represent a true difference. The decrease in forearm fracture incidence among women, and the tendency towards decreasing trochanteric hip fractures, in contrast to the absence of change in cervical hip fractures, might be mainly due to a more rapid effect of fall preventive measures than an increase in bone strength in the population. For the younger age groups an expected time lag between intervention and effect might invalidate the short follow-up period for outcome measurements. Thus, the effect of the 10-year intervention program on fracture incidence should be followed during an extended post-intervention period.

32: Shyu YI, Liang J, Wu CC, Su JY, Cheng HS, Chou SW, & Yang CT. (2005). A pilot investigation of the short-term effects of an interdisciplinary intervention program on elderly patients with hip fracture in Taiwan. *J Am Geriatr Soc.* May;53(5):811-8.

Center for Gerontological Research, Chang Gung University, Kweishan, Taoyuan, Taiwan.

Abstract: OBJECTIVES: To evaluate an interdisciplinary intervention program for older people with hip fracture in Taiwan. DESIGN: Randomized experimental design. SETTING: A 3,800-bed medical center in northern Taiwan. PARTICIPANTS: Elderly patients with hip fracture (N=137) were randomly assigned to an experimental (n=68) or control (n=69) group. INTERVENTION: An interdisciplinary program of geriatric consultation, continuous rehabilitation, and discharge planning. MEASUREMENTS: Demographic and outcome variables were measured. Outcome variables included service utilization, clinical outcomes, self-care abilities, health-related quality-of-life (HRQOL) outcomes, and depressive symptoms. RESULTS: Subjects in the experimental group improved significantly more than those in the control group in the following outcomes: ratio of hip flexion 1 month after discharge (P=.02), recovery of previous walking ability at 1 month (P=.04) and 3 months (P=.001) after discharge, and activities of daily living at 1 month (P=.01) and 2 months (P=.001) after discharge. Three months after discharge, the experimental group showed significant improvement in peak force of the fractured limb's quadriceps (P=.04) and the following health outcomes: bodily pain (P=.03), vitality (P<.001), mental health (P=.02), physical function (P<.001), and role physical (P=.006). They also had fewer depressive symptoms (P=.008) 3 months after discharge. CONCLUSION: This intervention program may benefit older people with hip fractures in Taiwan by improving their clinical outcomes, self-care abilities, and HRQOL and by decreasing depressive symptoms within 3 months after discharge.

33: Rejeski WJ, Fielding RA, Blair SN, Guralnik JM, Gill TM, Hadley EC, King AC, Kritchevsky SB, Miller ME, Newman AB, Pahor M. (2005). The lifestyle interventions and independence for elders (LIFE) pilot study: design and methods. *Contemp Clin Trials*. Apr;26(2):141-54.

Department of HES, Box 7868, Wake Forest University, Winston-Salem, NC 27109, USA. rejeski@wfu.edu

Abstract: The LIFE study is a multi-center pilot for a proposed full scale, two-arm randomized controlled trial that will contrast the effect of a physical activity intervention with a successful aging education program on the occurrence of incident major mobility disability (the inability to complete a 400 m walk) or death in at-risk sedentary older adults. Four hundred older adults from 4 clinical sites will be recruited for this purpose. All participants will be followed for at least 1-year; however, we will continue to follow all participants until the final randomized individual has reached the 1-year mark. This will enable us to acquire additional information about maintenance. Additional outcomes will include lower extremity physical performance as well as gait speed over 4 m and 400 m. These latter measures will provide data on the efficacy of the intervention on intermediate endpoints linked to the primary outcome of interest. The goals of the pilot study are to (a) estimate the sample size needed for a full scale trial, (b) examine the consistency of the effects of the physical activity intervention on several continuous measures of physical function, (c) assess the feasibility of recruitment, (d) evaluate study adherence and retention, (d) evaluate the efficacy of a stepped care approach for managing inter-current illness in this at-risk population, and (e) develop a comprehensive system for monitoring and ensuring participant safety. Other goals of this pilot phase include assessments of health-related quality of life and cost-effectiveness.

34: DiBrezza R, Shadden BB, Raybon BH, & Powers M. (2005). Exercise intervention designed to improve strength and dynamic balance among community-dwelling older adults. *J Aging Phys Act*. Apr;13 (2):198-209.

Office for Studies on Aging, University of Arkansas, Fayetteville, AR 72701, USA.

Abstract: Loss of balance and falling are critical concerns for older adults. Physical activity can improve balance and decrease the risk of falling. The purpose of this study was to evaluate a simple, low-cost exercise program for community-dwelling older adults. Sixteen senior adults were evaluated using the Senior Fitness Test for measures of functional strength, aerobic endurance, dynamic balance and agility, and flexibility. In addition, measures of height, weight, resting blood pressure, blood lipids, and cognitive function were obtained. Participants then attended a 10-week exercise class including stretching, strengthening, and balance-training exercises. At the completion of the program, significant improvements were observed in tests measuring dynamic balance and agility, lower and upper extremity strength, and upper extremity flexibility. The results indicate that exercise programs such as this are an effective, low-cost solution to improving health and factors that affect falling risk among older adults.

35: Ades PA, Savage PD, Brochu M, Tischler MD, Lee NM, & Poehlman ET. (2005). Resistance training increases total daily energy expenditure in disabled older women with coronary heart disease. *J Appl Physiol*. Apr;98(4):1280-5.

Division of Cardiology, Dept. of Medicine, McClure 1 Cardiology, Univ. of Vermont College of Medicine, Burlington, VT 05401, USA. philip.ades@vtmednet.org

Abstract: Physical activity energy expenditure (PAEE) is a determinant of prognosis and fitness in older patients with coronary heart disease (CHD). PAEE and total energy expenditure (TEE) are closely related to fatness, physical function, and metabolic risk in older individuals. The goal of this study was to assess effects of resistance training on PAEE, TEE, and fitness in older women with chronic CHD and physical activity limitations (N = 51, mean age: 72 + 5 yr). The study intervention consisted of a progressive, 6-mo program of resistance training vs. a control group condition of low-intensity yoga and deep breathing. The study interventions were completed by 42 of the 51 participants. The intervention group manifested a 177 +/- 213 kcal/day (+9%) increase in TEE, pre- to post-training, measured by the doubly labeled water technique during a non-exercise 10-day period (P < 0.03 vs. controls). This was due to a 50 +/- 74 kcal/day (4%) increase in resting metabolic rate measured by indirect calorimetry (P < 0.01, P < 0.05 vs. controls) and a 123 +/- 214 kcal/day (9%) increase in

PAEE ($P < 0.03$, $P = 0.12$ vs. controls). Resistance training was associated with significant increases in upper and lower body strength, but no change in fat-free mass, measured by dual X-ray absorptiometry, or left ventricular function, measured by echocardiography and Doppler. Women in the control group showed no alterations in TEE or its determinants. There were no changes between groups in body composition, aerobic capacity, or measures of mental depression. These results demonstrate that resistance training of 6-mo duration leads to an increase in TEE and PAEE in older women with chronic CHD.

36: Devereux K, Robertson D, Briffa NK. (2005). Effects of a water-based program on women 65 years and over: a randomized controlled trial. *Aust J Physiother.* 51(2):102-8.

School of Physiotherapy, Curtin university of Technology, Perth, Australia.
kathryn.devereux@health.wa.gov.au

Abstract: The purpose of this study was to assess the effects of a water-based exercise and self-management program on balance, fear of falling, and quality of life in community-dwelling women 65 years of age or older with a diagnosis of osteopenia or osteoporosis. Fifty women with an average age of 73.3 years (range 65.5-82.4, SD 3.9) were randomised to intervention or control groups. The intervention group received a 10-week water-based exercise and self-management program compiled by Community Physiotherapy Services and conducted by a physiotherapist at an aquatic centre twice a week for one hour. The control group did not receive any instructions and were not encouraged to change their physical activity, activities of daily living or social habits during the study. Change in balance, measured using the step test, from baseline to follow-up differed between intervention and control groups, with mean (95% CI) between-group differences of 1.7 (0.9 to 2.6) and 2.1 (1.1 to 3.1) steps on the left and right sides respectively. Between-group differences in score changes were also significant in four of the eight domains of quality of life measured using the Short Form 36 questionnaire (SF36; physical function 8.6 (0.4 to 16.8), vitality 12.0 (2.3 to 21.8), social function, and 14.1 (0.6 to 27.7) mental health 10.2 (2.0 to 18.4)), but not fear of falling measured using the modified falls efficacy scale (0.25 (-0.3 to 0.81)). It is concluded that a water-based exercise and self-management program produced significant changes in balance and quality of life, but not fear of falling, in this group of community-dwelling women 65 years of age or older with a diagnosis of osteopenia or osteoporosis.

37: Hogan M. (2005). Physical and cognitive activity and exercise for older adults: a review. *Int J Aging Hum Dev.* 60(2):95-126.

Department of Psychology, National University of Ireland, Galway, Ireland.
michael.hogan@nuigalway.ie

Abstract: Age-related reduction in musculoskeletal, cardiovascular, and central nervous system resilience can result in wide-ranging limitations in adaptive capacity associated with negative outcomes such as cognitive decline, increased risk of cardiovascular disease, mobility problems, and increased incidence of debilitating falls. This article reviews the benefits of both cognitive and physical activity within the broad context of multiple system resilience in adult aging. Research on a unique form of combined physical/cognitive exercise, Tai Chi Chuan, is presented. The relationship between physiological and psychological gain associated with an activity intervention program is discussed in light of principles of rehabilitation, intervention compliance, subjective and objective gain, and the hypothesized value of combining physical exercise, cognitive exercise, and relaxation into a single program designed to promote resilience in older adults.

38: Benloucif S, Orbeta L, Ortiz R, Janssen I, Finkel SI, Bleiberg J, & Zee PC. (2004). Morning or evening activity improves neuropsychological performance and subjective sleep quality in older adults. *Sleep.* Dec 15;27(8):1542-51.

Department of Neurology, Northwestern University Feinberg School of Medicine, Chicago, IL 60611, USA. s-benloucif@northwestern.edu

Abstract: STUDY OBJECTIVES: Sleep disturbances and decline in neuropsychological performance are common in older adults. Reduced social and physical activity is likely a contributing factor for these age-related changes in sleep and cognition. We previously demonstrated that a program of structured social and physical

activity, with 2 daily activity sessions, 1 in the morning and 1 in the evening for a relatively short period of 2 weeks, improved sleep and neuropsychological performance in community-dwelling older adults. The goals of this pilot study were to determine whether a single daily morning or evening activity session for 2 weeks would also improve sleep and neuropsychological function and whether these effects were dependent on the timing of the activity sessions. DESIGN: We compared the effect of morning or evening structured activity sessions in a repeated-measures crossover design. Subjective mood, neuropsychological performance tasks, and subjective and objective measures of sleep were assessed at baseline and after the intervention. SETTING: All procedures took place in the participant's residence. PARTICIPANTS: Twelve older men and women (74.6 +/- 5.5 years of age). INTERVENTIONS: Subjects participated in 14 days of structured activity sessions in the morning (9:00-10:30 am) or evening (7:00-8:30 pm). Sessions consisted of stretching, low-impact aerobics, and game playing. MEASUREMENTS AND RESULTS: Exposure to either morning or evening activity significantly improved performance on a neuropsychological test battery. Morning activity sessions increased throughput on 4 of 8 performance tasks, while evening activity sessions improved throughput on 7 of the 8 performance tasks. Subjective sleep-quality ratings, measured by the Pittsburg Sleep Quality Index, improved following activity sessions in either the morning or the evening. Objective measures of sleep did not improve when measured by actigraphy or polysomnography. CONCLUSIONS: These results suggest that short-term exposure to either morning or evening social and physical activity improves objective measures of neuropsychological performance and subjective sleep quality in the elderly. Increasing exposure to social and physical activity may be a useful intervention to improve sleep quality and daytime function in older adults.

39: Fisher KJ, & Li F. (2004). A community-based walking trial to improve neighborhood quality of life in older adults: a multilevel analysis. *Ann Behav Med.* Dec;28(3):186-94.

Oregon Research Institute, Eugene, OR 97403, USA. johnf@ori.org

Abstract: BACKGROUND: Few studies have considered the neighborhood as a context in which to examine the physical activity and quality of life relationship. PURPOSE: The goal of this study was to evaluate the effects of a neighborhood walking program on quality of life among older adults. It was designed as a randomized trial involving a multilevel design with neighborhoods corresponding to primary sampling units and residents to secondary units. METHODS: Five hundred eighty-two community-dwelling senior residents (65 years of age or older) in neighborhoods in the northeast metropolitan area of Portland, Oregon, were recruited through telephone, direct mail, and referrals. The walking intervention was delivered at the neighborhood level. Neighborhoods (N = 56) were randomly assigned to a 6-month, 3 times per week, leader-led walking group activity (n = 28) or an information-only control group (n = 28). Primary outcome measures included SF-12 (Physical, Mental summary scores) and life satisfaction (SWLS); the secondary outcome measure was neighborhood walking activity, assessed at baseline, 3 months, and 6 months of the study period. RESULTS: Compared to the control neighborhoods, results from multilevel, longitudinal analyses indicated significant improvements in the primary outcomes of SF-12 Physical (p < .05), SF-12 Mental (p < .05) summary scores, and SWLS (p < .05), over the course of the 6-month intervention. A significant increase was also observed in the secondary outcome of walking activity (p < .05). CONCLUSIONS: Implementing a neighborhood-based walking program of low to moderate intensity is feasible and beneficial for promoting quality of life among senior residents at a community level.

40: Sihvonen S, Sipila S, Taskinen S, & Era P. (2004). Fall incidence in frail older women after individualized visual feedback-based balance training. *Gerontology.* Nov-Dec;50(6):411-6.

Department of Health Sciences, University of Jyväskylä, PO Box 35 (Viveca), FI-40014 Jyväskylä, Finland. sihvonen@sport.jyu.fi

Abstract: BACKGROUND: The knowledge concerning balance training actually lowering fall rates among frail older persons is limited. OBJECTIVE: The aim of this study was to examine the effects of a 4-week individualized visual feedback-based balance training on the fall incidence during 1-year follow-up among frail older women living in residential care. METHODS: Twenty-seven older women from 2 residential care homes were randomized into exercise (n = 20) and control (n = 7) groups. Balance measurements were carried out before and after a 4-week training period and falls were monitored by monthly diaries for 1 year. An interview about fear of falling and physical activity was completed before and after the intervention and after the 1-year follow-up. RESULTS: A positive effect of balance training on fall incidence was found. A dynamic Poisson

regression model showed that during the follow-up the monthly risk of falling was decreased in the exercise group compared to controls (risk ratio 0.398, 95% CI 0.174-0.911, $p = 0.029$). In addition, the exercise group reported a reduced fear of falling and increased physical activity after a training period but these changes declined during the follow-up period. **CONCLUSION:** Individualized visual feedback-based balance training was shown to be a promising method for fall prevention among frail older women. High compliance (97.5%) with the training program showed that carefully targeted training programs can be carried out among older people with health limitations. Copyright 2004 S. Karger AG, Basel.

41: Jensen GL, Roy MA, Buchanan AE, & Berg MB. (2004). Weight loss intervention for obese older women: improvements in performance and function. *Obes Res. Nov;12(11):1814-20.*

Vanderbilt Center for Human Nutrition, Nashville, TN 37232, USA.

Abstract: **OBJECTIVES:** To determine the feasibility of a 3-month weight loss program for obese older women with short-term laboratory, performance, functional, and life quality outcomes. **RESEARCH METHODS AND PROCEDURES:** This was a pre- and post-intervention design. Community-dwelling women ($n = 26$) $> \text{ or } = 60$ years old with BMI $> \text{ or } = 30$ were enrolled in a 3-month weight loss program promoting prudent diet, behavior modification, and physical activity. The primary emphasis of the program was on health, function, and quality of life. The approach was specifically tailored to older subjects through use of large-font instructional materials, supplementation of calcium and vitamin D, and moderate weight loss and physical activity goals. An initial assessment by a bariatric physician was followed by eight visits with a dietitian and a follow-up physician visit. Measurements included anthropometrics, body composition, laboratories, pedometer, physical performance, Short-Form 36 Health Status Survey (SF-36), Life Space Assessment, and dietary assessment. **RESULTS:** Eighteen participants completed the program. There was a significant decrease in mean body weight (100 ± 15 vs. 96 ± 18 kg, $p = 0.006$), with a mean weight loss of 4.3 ± 5.5 kg (range -15.5 to $+7.20$ kg). Significant improvements were observed for diastolic blood pressure, total cholesterol, triglycerides, physical performance, pedometer-measured step counts, and step climb and descent. Self-rated physical functioning (SF-36 subscore) and vitality (SF-36 subscore) were also significantly improved. **DISCUSSION:** It is feasible for self-selected obese older women to achieve a moderate weight loss and increase in physical activity resulting in short-term improvements in laboratory, physical performance, self-reported function, vitality, and life quality outcomes.

42: Hue OA, Seynnes O, Ledrole D, Colson SS, & Bernard PL. (2004). Effects of a physical activity program on postural stability in older people. *Aging Clin Exp Res. Oct;16(5):356-62.*

Laboratory of the Physiology of Adaptations, Motor Performance and Health, Faculty of Sport Sciences, University of Nice Sophia-Antipolis, Nice, France. hue@unice.fr

Abstract: **BACKGROUND AND AIMS:** The objective of this non-randomized study was to determine the influence of a specific physical activity program on the postural stability of older people. **METHODS:** Seventy-four subjects (72.4 ± 0.7 yrs) participated in an individualized three-month physical activity program designed to improve posture, balance and mobility--the PBM program. Sessions were held twice weekly. Postural stability was assessed using a force platform, subjects being in static and dynamic conditions, and with open and closed eyes. Changes in stabilometric parameters (Sway area, ML mean, AP mean, Total length, ML length and AP length) of the intervention group were compared to those of 14 control subjects (71.8 ± 1.5 years). **RESULTS:** A two-way analysis of variance with repeated measures did not show any significant post-program change in postural stability in the hard floor condition. In contrast, Sway area ($p < 0.0005$), Total length ($p < 0.001$) and AP length ($p < 0.01$) were significantly reduced after the training program in the foam floor condition, with open and closed eyes. In addition, in the medio-lateral axis condition and with closed eyes, AP length in the intervention group was significantly reduced ($p < 0.01$), and in the antero-posterior axis condition with both open and closed eyes, Sway area ($p < 0.0005$), Total length ($p < 0.0005$) and AP length ($p < 0.05$) decreased significantly. **CONCLUSIONS:** As shown by the results in the foam floor and dynamic conditions, our individualized physical activity program improved the postural stability of older people when the standing position was challenged. However, the lack of significant results for the hard floor condition suggests that three months is not sufficient to improve static balance. The PBM physical activity program can be used for balance training in older people, but further studies are required to determine the time needed to effect improvements in static balance in this population.

43: Jensen J, Nyberg L, Rosendahl E, Gustafson Y, & Lundin-Olsson L. (2004). Effects of a fall prevention program including exercise on mobility and falls in frail older people living in residential care facilities. *Aging Clin Exp Res.* Aug;16(4):283-92.

Department of Community Medicine and Rehabilitation, Geriatric Medicine and Physiotherapy, Umea University, Sweden. jane.jensen@physiother.umu.se

Abstract: BACKGROUND AND AIMS: Impaired mobility is one of the strongest predictors for falls in older people. We hypothesized that exercise as part of a fall prevention program would have positive effects, both short- and long-term, on gait, balance and strength in older people at high risk of falling and with varying levels of cognition, residing in residential care facilities. A secondary hypothesis was that these effects would be associated with a reduced risk of falling. METHODS: 187 out of all residents living in 9 facilities, > or =65 years of age were at high risk of falling. The facilities were cluster-randomized to fall intervention or usual care. The intervention program comprised: education, environment, individually designed exercise, drug review, post-fall assessments, aids, and hip protectors. Data were adjusted for baseline performance and clustering. RESULTS: At 11 weeks, positive intervention effects were found on independent ambulation (FAC, $p=0.026$), maximum gait speed ($p=0.002$), and step height ($> \text{ or } =10 \text{ cm}$, $p<0.001$), but not significantly on the Berg Balance Scale. At 9 months (long-term outcome), 3 intervention and 15 control residents had lost the ability to walk ($p=0.001$). Independent ambulation and maximum gait speed were maintained in the intervention group but deteriorated in the control group ($p=0.001$). Residents with both higher and lower cognition benefited in most outcome measures. No association was found between improved mobility and reduced risk of falling. CONCLUSIONS: Exercise, as part of a fall prevention program, appears to preserve the ability to walk, maintain gait speed, ambulate independently, and improve step height. Benefits were found in residents with both lower and higher cognitive impairment, but were not found to be associated with a reduced risk of falling.

44: Focht BC, Brawley LR, Rejeski WJ, & Ambrosius WT. Group-mediated activity counseling and traditional exercise therapy programs: effects on health-related quality of life among older adults in cardiac rehabilitation. (2004). *Ann Behav Med.* Aug;28(1):52-61.

Department of Exercise and Sport Science, East Carolina University, Greenville 27858, USA. fochtb@mail.ecu.edu

Abstract: BACKGROUND: Regular physical activity has been consistently related to improvements in health-related quality of life (HRQL) in older adults. Nevertheless, systematic investigations of the influence of exercise therapy on older men and women enrolled in cardiac rehabilitation remain sparse. PURPOSE: The primary purpose of this investigation was to compare the effects of a group-mediated cognitive behavioral physical activity intervention program (GMCB) to a traditional cardiac rehabilitation program (CRP) with regard to changes in HRQL in a community-dwelling sample of older adults. METHODS: This randomized clinical trial assigned 147 participants who were eligible for inclusion in cardiac rehabilitation to the GMCB or traditional CRP arms. Changes in HRQL at 3 and 12 months were assessed using the Short Form-36 (SF-36) from the Medical Outcomes Study. RESULTS: Mixed-model analyses yielded significant Baseline x Gender x Treatment interactions for the self-reported mental health component and the Vitality subscale of the SF-36. Decomposition of these interactions revealed that men in both exercise therapy groups and women in the GMCB treatment with low baseline values demonstrated more favorable improvements in the HRQL perceived mental health measures than women in the CRP treatment. CONCLUSIONS: Improvements in HRQL among older adults enrolled in cardiac rehabilitation differ as a function of treatment, gender, and initial mental health status. Results are discussed in terms of the implications for the design of future physical activity interventions among older adults with cardiovascular disease and the measurement of their HRQL.

45: Jiang X, Cooper J, Porter MM, & Ready AE. (2004). Adoption of Canada's Physical Activity Guide and Handbook for Older Adults: impact on functional fitness and energy expenditure. *Can J Appl Physiol.* Aug;29(4):395-410.

Faculty of Physical Education and Recreation Studies, University of Manitoba, Winnipeg, Canada.

Abstract: This study investigated whether a behaviour change program, based on Canada's Physical Activity

Guide and Handbook to Healthy Active Living for Older Adults (Health Canada, 1999a), would elicit greater benefits than adoption of the guide and handbook alone. Fifteen older adults received the guide and accompanying handbook and completed the 8-week behaviour change program (mean age 73.2 +/- 5.2 yrs), while 14 others received only the guide and handbook (mean age 76.8 +/- 10.0 yrs). Functional fitness (lower body strength/endurance, flexibility, agility/dynamic balance) (Rikli and Jones, 1999), and estimated energy expenditure (DiPietro et al., 1993) were measured at baseline and after 8 weeks. Lower body strength/endurance and agility/dynamic balance differed between groups at baseline, $p < 0.05$. All three functional fitness tests improved in both groups over time, $p < 0.05$. Estimated energy expended in physical activity increased in both groups over time, $p < 0.05$; however, there was a significantly greater increase in the behaviour-change group (Group x Time interaction, $p < 0.05$). Participant response to using the guide and handbook was positive. These results indicate that introduction to Canada's Physical Activity Guide and Handbook to Healthy Active Living for Older Adults leads to benefits, whether or not accompanied by program supports. The group receiving the behaviour change program had a greater increase in energy expenditure, which suggests that such an intervention may ultimately lead to greater health benefits.

46: Eur J Cardiovasc Prev Rehabil. (2004). Aug;11(4):328-35.

Cardiac rehabilitation programmes: predictors of non-attendance and drop-out.

Worcester MU, Murphy BM, Mee VK, Roberts SB, Goble AJ.

Heart Research Centre, Melbourne Victoria, Australia. m.worcester@unimelb.edu.au

Abstract: BACKGROUND: Despite evidence of its benefits, attendance at cardiac rehabilitation (CR) program is poor. Past studies to identify predictors of non-attendance have been limited by their small sample size, particularly for female patients. The present study was designed to identify socio-demographic and clinical predictors of non-attendance and drop-out separately for men and women automatically referred to CR programs. METHOD AND SUBJECTS: Prospective study of CR program attendance amongst 808 patients consecutively admitted over an 11-month period to one of two hospitals in Melbourne, Australia, after acute myocardial infarction (AMI), or to undergo coronary artery bypass graft surgery (CABGS) or percutaneous coronary intervention (PCI). RESULTS: Of the 652 eligible patients, 573 (88%) were successfully tracked at 4 months. Of these, 284 (49.6%) had attended a CR program, while 272 (47.5%) had not. Using logistic regression, the significant predictors of program non-attendance among men were having had a PCI, being a non-driver, and being aged 70 or more. The only factor predictive of non-attendance for women was being aged 70 or more. Amongst attendees, 67 (23.6%) patients discontinued the program. Being a smoker, having diabetes and being unemployed at the time of hospital admission were predictive of program drop-out by men. Being physically inactive at admission was predictive of program drop-out by women. CONCLUSIONS: The present study demonstrated a relatively high rate of CR program attendance. Special attention needs to be directed towards males who are older, PCI patients, smokers, unemployed or non-drivers, and females who are older or inactive.

&

47: Podgorski CA, Kessler K, Cacia B, Peterson DR, Henderson CM.

Ment Retard. 2004 Aug;42(4):272-83. Physical activity intervention for older adults with intellectual disability: report on a pilot project.

Center for Lifetime Wellness, Monroe Community Hospital, University of Rochester

Medical Center, 435 E. Henrietta Rd., Rochester, NY 14620, USA. carol_podgorski@urmc.rochester.edu

Abstract: A 12-week pilot project on physical activity was introduced in a day habilitation setting to a group of 12 older adults with intellectual disability and a variety of physical and behavioral conditions. Our purpose was to determine whether (a) this intervention would positively impact physical function in this population, (b) consumers would choose to participate in physical activity sessions, and (c) day habilitation staff could sustain this program beyond the intervention period. Findings indicate that 92% of participants experienced improvement in at least one domain of physical function, physical activity sessions remained a popular activity choice for consumers, and many participants sustained functional gains 1 year after habilitation staff assumed responsibility for sessions.

48: Heart Lung. 2004 Jul-Aug;33(4):210-8.

Home-based exercise improves functional performance and quality of life in women with diastolic heart failure.

Gary RA, Sueta CA, Dougherty M, Rosenberg B, Cheek D, Preisser J, Neelon V, McMurray R.

Medical College of Georgia, Athens, GA 30605, USA.

Abstract: BACKGROUND: Diastolic heart failure (DHF) is common in older women. There have been no clinical trials that have identified therapies to improve symptoms in these patients. A total of 32 women with New York Heart Association class II and III DHF (left ventricular ejection fraction >45% and symptoms of dyspnea or fatigue) were randomized into a 12-week home-based, low-to-moderate intensity (40% and 60%, respectively) exercise and education program (intervention) or education only program (control). Methods and results The intervention group improved in the 6-minute walk test from 840 +/- 366 ft to 1043 +/- 317 ft versus 824 +/- 367 ft to 732 +/- 408 ft in the control group (P =.002). Quality of life also improved in the intervention group compared with the control group as measured by the Living with Heart Failure Questionnaire (41 +/- 26 to 24 +/- 18 vs 27 +/- 18 to 28 +/- 22 at 12 weeks, P =.002; 24 +/- 18 to 19 +/- 18 vs 28 +/- 22 to 32 +/- 27 at the 3-month follow-up, P =.014) and the Geriatric Depression Scale (6 +/- 4 to 4 +/- 4 vs 5 +/- 3 to 7 +/- 5 at 12 weeks, P =.012; 4 +/- 4 to 4 +/- 4 vs 7 +/- 5 to 7 +/- 5 at the 3-month follow-up, P =.009). CONCLUSIONS: Women with DHF exhibit significant comorbidities and physical limitations. Home-based, low-to-moderate intensity exercise, in addition to education, is an effective strategy for improving the functional capacity and quality of life in women with DHF. Further study is needed to assess the long-term effect of exercise on clinical outcomes.

49: Gerontologist. 2004 Apr;44(2):217-28.

Impact of the fit and strong intervention on older adults with osteoarthritis.

Hughes SL, Seymour RB, Campbell R, Pollak N, Huber G, Sharma L.

Health Research and Policy Centers, University of Illinois at Chicago, 850 W. Jackson Boulevard, Suite 400, Chicago, IL 60607, USA. shughes@uic.edu

Abstract: PURPOSE: This study assessed the impact of a low cost, multi-component physical activity intervention for older adults with lower extremity osteoarthritis. DESIGN AND METHODS: A randomized controlled trial compared the effects of a facility-based multiple-component training program followed by home-based adherence (n = 80) to a wait list control group (n = 70). Assessments were conducted at baseline and at 2 and 6 months following randomization. The training program consisted of range of motion, resistance training, aerobic walking, and education-group problem solving regarding self-efficacy for exercise and exercise adherence. All training group participants developed individualized plans for post-training adherence. RESULTS: Relative to the persons in the control group, individuals who participated in the exercise program experienced a statistically significant improvement in exercise efficacy, a 48.5% increase in exercise adherence, and a 13.3% increase in 6-min distance walk that were accompanied by significant decreases in lower extremity stiffness at 2 and 6 months. Program participants also experienced a significant decrease in lower extremity pain and a borderline significant improvement in efficacy to adhere to exercise over time at 6 months (p =.052). In contrast, persons in the control group deteriorated over time on the efficacy and adherence measures and showed no change on the other measures. No adverse health effects were encountered. IMPLICATIONS: These benefits indicate that this low-cost intervention may hold great promise as one of a growing number of public health intervention strategies for older adults in the United States with osteoarthritis.

50: Thompson CJ, Osness WH. (2004). Effects of an 8-week multimodal exercise program on strength, flexibility, and golf performance in 55- to 79-year-old men *J Aging Phys Act.* Apr;12(2):144-56.

Dept. of Exercise and Sport Science, University of San Francisco, CA 94117, USA.

Abstract: Substantial research has indicated the beneficial effect of physical activity on physical fitness and

activities of daily living in older adults, but none have investigated the effects on performance of recreational activities. This investigation studied the effect of an exercise program on fitness and golf-club head speed in older men. Thirty-one golfers (mean age 65.1 +/- 6.2 years) were randomly assigned to a treatment (n = 19) or control (n = 12) group. The treatment group completed an 8-week strength and flexibility program. Assessments included 10-RM muscle strength; selected range-of-motion (ROM) measurements; and golf-club head speed (CHS). ANCOVA revealed significant differences between groups ($p < .005$) for all strength measurements and several ROM measurements. CHS was significantly different ($p < .05$) between groups after the intervention. Mean CHS improved from 85.0 to 87.1 miles/hr (136.8 to 140.2 km/hr). These results indicate that a strength and flexibility program can improve golf performance in older adults.

51: Sherrington C, Lord SR, & Finch CF. (2004). Physical activity interventions to prevent falls among older people: update of the evidence. Apr;7(1 Suppl):43-51. *J Sci Med Sport*.

Prince of Wales Medical Research Institute, the University of New South Wales, Australia.

Abstract: Injuries resulting from falls are a significant public health issue, particularly for older people. This review provides an update of the evidence on the effects of various physical activity (PA) or exercise intervention strategies for the prevention of unintentional falls among older people. Six systematic reviews, and three randomized controlled trials not incorporated in previous reviews, were located with a literature search. There is clear evidence that a targeted supervised home exercise program of strength and balance exercise and walking practice, prescribed by a trained health professional, can prevent falls among older community dwellers. There is also an indication that untargeted group exercise (ie, not individually prescribed) can prevent falls among community dwellers, particularly if it involves Tai Chi or other exercises which challenge balance. There is some indication that individual prescription of PA is more important in frailer groups. Further investigation is required to establish the effects of PA in residential aged care, and the relative effects of different types of PA in different populations. In addition, multi-disciplinary, multi-factorial, health/environmental risk factor screening/intervention programs have been found to be effective in preventing falls. For many individuals with physical risk factors for falls (eg, impaired strength, balance or functional ability), PA alone is likely to reduce the risk of falls. For those with additional risk factors (eg, visual impairments, psychoactive medication use), other interventions may also be required.

52: Howat P, Boldy D, & Horner B (2004). Promoting the health of older Australians: program options, priorities and research. *Aust Health Rev*. 27(1):49-55.

Centre for Research into Aged Care Services, Curtin University of Technology, Perth, Western Australia.

Abstract: Relatively little emphasis has been placed on identifying health promotion research and program priorities for the older age group. A one-day conference culminating in an interactive session was organized to engage health service professionals in a process to identify such priorities in Western Australia. Physical activity social isolation, mental health and medications were deemed issues warranting more attention by both health promotion research and health promotion intervention programs. Additional consultation with representatives of the target population is recommended to further refine the priorities.

53: Brandon LJ, Gaasch DA, Boyette LW, & Lloyd AM. (2003). Effects of long-term resistive training on mobility and strength in older adults with diabetes. *J Gerontol A Biol Sci Med Sci*. Aug;58(8):740-5.

Rehabilitation Research and Development Center, Veteran Affairs Medical Center-Decatur, and Department of Kinesiology and Health, Georgia State University, Atlanta 30303, USA.
hprijb@langate.gsu.edu

Abstract: BACKGROUND: Strength training has been shown to be beneficial in older adults. However, very little data exist on the effects of strength training in older diabetics. METHODS: 31 community-dwelling older adults with diabetes (mean age = 66.1 years) were randomly assigned to either an exercise (EX) or control (CO) group. The EX group trained the plantar flexors, knee extensors, knee flexors, hip extensors, and hip flexors muscle groups at 50%, 60%, and 70% of 1-repetition maximum, 2.6 days a week, for 24 months. Mobility tests included the timed up and go, 50-foot walk, and walking up and down 8 stairs. Strength and mobility for both groups were

evaluated at 6-month intervals. RESULTS: There was a group and time effect as the EX group increased 31.4% ($p < .001$) in strength for all muscle groups after the first 6 months of training, and the strength gains were retained for the duration of the training intervention. There was also a group and time effect for mobility as performance increased 8.6% and 9.8% ($p = .032$ and $p = 0.031$) for the first 6 and 12 months, respectively, but decreased to 4.6% above baseline at the end of the intervention. There were essentially no changes from baseline strength or mobility values for the CO group. CONCLUSION: In conclusion, these data suggest that a moderate-intensity resistive-training program can improve mobility and strength for the duration of a 24-month intervention in older adults with diabetes, thus potentially reducing the rate of mobility loss during aging.

54: Ann Behav Med. 2003 Spring;25(2):112-9.

Discretionary time among older adults: how do physical activity promotion interventions affect sedentary and active behaviors?

Lee RE, King AC.

Department of Preventive Medicine, University of Kansas School of Medicine, Kansas City 66160, USA.
relee@kumc.edu

Abstract: Investigation goals were to document discretionary time activities among older adults, determine whether time spent in discretionary activities varied by gender, and investigate whether participation in a prescribed physical activity (P) intervention increased the time that older adults spend in discretionary time physical activities that were not specifically prescribed by interventions. Longitudinal data were drawn from 2 published studies of older adults. Study 1 compared 2 PA interventions in healthy older men and women ($N = 103$, $M = 70.2$ years), and Study 2 compared a PA intervention with a nutrition intervention in healthy older women ($N = 93$, $M = 63.1$ years). Participants in both studies completed similar assessments of their discretionary time activities using the Community Healthy Activities Model Program for Seniors questionnaire. Across both studies, at baseline, over 95% of participants reported talking on the telephone and reading as frequent sedentary discretionary time activities; over 80% reported visiting with friends and watching television or listening to the radio. Women engaged in significantly greater hours of social activities and household maintenance activities than did men ($p < .05$). From baseline to 12-month posttest, social, recreational, and household activities remained stable by gender and across time after participating in a PA intervention. Despite previously documented 2- to 3-hr increases in physical activities occurring in response to the study interventions, increases did not generalize for most participants to activities not prescribed by the intervention. Older adults are participating in numerous sedentary social and recreational activities that appear to remain stable across time and in the face of PA intervention prescriptions.

55: Demark-Wahnefried W, Morey MC, Clipp EC, Pieper CF, Snyder DC, Sloane R, & Cohen HJ. (2003). Leading the Way in Exercise and Diet (Project LEAD): intervening to improve function among older breast and prostate cancer survivors. *Control Clin Trials*. Apr;24(2):206-23.

Department of Surgery, Duke University Medical Center, Durham, NC 27710, USA.
demar001@mc.duke.edu

Abstract: The U.S. population is aging, bringing with it an increased prevalence of chronic disease and concomitant declines in physical function. The risk of developing cancer increases significantly with age, and functional decline is much more likely once a cancer diagnosis is rendered. Thus, functional status in later life is a key concern, one that is heightened among elders who have been diagnosed with cancer. To date, however, there have been few trials that have exclusively addressed issues related to cancer survivorship among older cancer patients, and to our knowledge, none has focused on preserving or enhancing physical functioning. This paper describes the study design and methodological considerations of a randomized controlled trial to determine if a personally tailored workbook and telephone counseling program can positively affect physical activity and dietary behaviors and ultimately the physical functioning of up to 420 older men and women newly diagnosed with breast or prostate cancer. This trial is unique because the cancer diagnosis is used not only as a marker of risk for functional decline, but also as a "teachable moment" - an opportune time when elders may be more receptive to making beneficial lifestyle changes. Undoubtedly, as cure rates for cancer increase and intersect with ever-growing numbers of elderly, there will be numerous opportunities to provide and test

interventions within this vulnerable population and to target functional status as a primary outcome. In reporting our methods, we hope to give others "a leg up," so that they can hurdle with greater ease the barriers we experienced, and thus advance the field more rapidly.

56: Dionne IJ, Ades PA, & Poehlman ET. (2003). Impact of cardiovascular fitness and physical activity level on health outcomes in older persons. *Mech Ageing Dev.* Mar;124(3):259-67.

Centre de recherche sur le vieillissement, Institut universitaire de gériatrie de Sherbrooke and Faculté d'éducation physique et sportive de l'Université de Sherbrooke, 1036, Belvedere Sud, Sherbrooke, Que., Canada J1H 4C4. isabelle.dionne@usherbrooke.ca

Abstract: It remains unclear whether health recommendations should focus on improving cardiovascular fitness or physical activity energy expenditure in older persons. Although the literature is not abundant in this area, we first examined the association between cardiovascular fitness and physical activity. It appears that cross-sectional studies support a positive association between cardiovascular fitness and physical activity energy expenditure, whereas intervention studies suggest that when aerobic exercise is implemented later in life, older individuals either do not change or decrease physical activity energy expenditure outside of the program. We also considered the impact of improvements in cardiovascular fitness and physical activity on some commonly measured health outcomes in older persons. Based on preliminary studies, it appears that improving cardiovascular fitness has a greater impact on various health outcomes, whereas increased physical activity is also associated with health benefits, although to a lesser extent. Further work should be devoted at elucidating the individual benefits of increasing cardiovascular fitness or physical activity on health outcomes in older persons. Such information will be useful in refining exercise prescription to improve health status, particularly in older persons.

57: Cox KL, Burke V, Gorely TJ, Beilin LJ, & Puddey IB. (2003). Controlled comparison of retention and adherence in home- vs center-initiated exercise interventions in women ages 40-65 years: The S.W.E.A.T. Study (Sedentary Women Exercise Adherence Trial). *Prev Med.* Jan;36(1):17-29.

Department of Medicine, University of Western Australia, Western Australian Institute for Medical Research, and HeartSearch, Western Australia. kaycox@cyliene.uwa.edu.au

Abstract: BACKGROUND: In an 18-month exercise intervention in previously sedentary older women (40-65 years), we examined whether an initial 6 months of supervised exercise leads to greater long-term retention and adherence to regular physical activity than an unsupervised home-based program and whether these outcomes are influenced by the exercise intensity. METHODS: Women (N = 126) were recruited from the community and randomly assigned to either center-based or home-based exercise three times/week. The center-based group attended supervised sessions for 6 months, while after 10 initial sessions the home-based group exercised at home. After 6 months both groups were home-based for a further 12 months. Within each arm, subjects were further randomized to exercise at either moderate or vigorous intensity. RESULTS: The center-based group had higher retention than the home-based (97, 94, 81 versus 87, 76, and 61%) at 6, 12, and 18 months, respectively (P < 0.05). At 6 months, adherence was higher in the center-based group (84 versus 63%, P < 0.001) and energy expenditure was higher at 6 (P < 0.05) and 12 (P < 0.01) months. At 18 months, retention was higher with moderate exercise (P < 0.05), while adherence was similar with both intensities. CONCLUSION: An initial 6 months of center-based exercise enhanced retention in both the short and the long term and promoted short-term adherence and energy expenditure. Long-term, moderate exercise retained more subjects, but had little influence on adherence.

58: Vass M, Avlund K, Hendriksen C, Andersen CK, Keiding N. Preventive home visits to older people in Denmark: methodology of a randomized controlled study. (2002). *Ageing Clin Exp Res.* Dec;14(6):509-15.

Department of General Practice, Institute of Public Health, University of Copenhagen, Copenhagen, Denmark. m.vass@dadlnet.dk

Abstract: BACKGROUND AND AIMS: Preventive home visits were introduced by legislation in Denmark in 1998. This ongoing randomized controlled intervention study introduces a model where preventive home visits to

elderly people are carried out in a standardized way, focusing on early signs of disability and on physical activity. The study includes general practitioners (GPs) in relevant parts of the assessment and endeavors coordinated interdisciplinary follow-up. Our main aim was to investigate whether this model gives enhanced active life expectancy, but the focus of the present paper is the design of the study. METHODS: The design was a prospective, controlled, follow-up study conducted over a 3-year period (1999-2001) with randomization and intervention at the community level, and outcomes measured at an individual level among people living in those communities. The study included 17 pairs of intervention and control communities (34 in total), including 2104 persons aged 75-80 years in the intervention communities (participation rate, 70.8%) and 1956 persons in the control communities (p.r. 70.3%). The main outcome measure is change in functional ability after 1.5 and 3 years. Other outcomes are mortality, and hospital and nursing home admissions. Intervention communities received systematic education and written materials; two key representatives from each community also attended bi-annual follow-up meetings. Control communities did not receive any intervention but were allowed to conduct a preventive program completely on their own. RESULTS: Baseline characteristics were similar in the intervention and control communities with regard to size, rural and urban characteristics and geriatric services, and the individual characteristics of participating persons living in these communities were also comparable. The intervention was well accepted and feasible. CONCLUSIONS: When results become available, the study should reveal the most important factors for preventive home visits to elderly people.

59: Gerontology. 2002 Nov-Dec;48(6):360-8.

Knee extension strength is a significant determinant of static and dynamic balance as well as quality of life in older community-dwelling women with osteoporosis.

Carter ND, Khan KM, Mallinson A, Janssen PA, Heinonen A, Petit MA, McKay HA; Fall-Free BC Research Group.

Fall-Free BC Research Group: BC Women's Hospital and Health Centre Osteoporosis Program and Faculty of Medicine (Department. of Family Practice), University of British Columbia, Vancouver, BC, Canada.

Abstract: BACKGROUND: Determinants of balance have not been well studied in women with osteoporosis yet falls are the major cause of fracture in this population. OBJECTIVE: To describe the associations among knee extension strength, medication history, medical history, physical activity and both static and dynamic balance in women diagnosed with osteoporosis. METHODS: We assessed health history, current medication and quality of life by questionnaire in 97 community-dwelling women with osteoporosis. Static balance was measured by computerized dynamic posturography (Equitest), dynamic balance by timed figure-eight run, and knee extension strength by dynamometry. RESULTS: The 97 participants (mean (SD) age 69 (3.2) years) had a mean lumbar spine BMD of $T = -3.3$ (0.7) and total hip BMD of -2.9 (0.4). In stepwise linear regression, the significant determinants of static balance that explained 18% of total variance were knee extension strength (10%, $p < 0.001$), age (5%, $p < 0.01$) and tobacco use (3%, $p < 0.05$). The significant predictors of dynamic balance were knee extension strength (26%, $p < 0.001$), medications (6%, $p < 0.05$), age (4%, $p < 0.05$), height (4%, $p < 0.001$), as well as years of estrogen use (2%), tobacco use (2%) and weight (2%) (all $p < 0.05$). Knee extension strength was also associated with quality of life ($r(2) = 0.12$, $p < 0.001$). Based on these models, a 1 kg/cm (approximately 3%) increase in mean knee extension strength was associated with 1.2, 2.4 and 3.4% greater static balance, dynamic balance and quality of life, respectively. CONCLUSIONS: Knee extension strength is a significant determinant of performance on static and dynamic balance tests in 65- to 75-year-old women with osteoporosis. In this cross-sectional study, knee extension strength explained a greater proportion of the variance in balance tests than did age. Investigation into the effect of intervention to improve knee extension strength in older women with osteoporosis is warranted. Copyright 2002 S. Karger AG, Basel

60: Carter ND, Khan KM, McKay HA, Petit MA, Waterman C, Heinonen A, Janssen PA, Donaldson MG, Mallinson A, Riddell L, Kruse K, Prior JC, & Flicker L. (2002).CMAJ. Community-based exercise program reduces risk factors for falls in 65- to 75-year-old women with osteoporosis: randomized controlled trial. Oct 29;167(9):997-1004.

UBC Bone Health Research Group, University of British Columbia, Vancouver, BC.

Abstract: BACKGROUND: Exercise programs improve balance, strength and agility in elderly people and thus may prevent falls. However, specific exercise programs that might be widely used in the community and that might be "prescribed" by physicians, especially for patients with osteoporosis, have not been evaluated. We conducted a randomized controlled trial of such a program designed specifically for women with osteoporosis. METHODS: We identified women 65 to 75 years of age in whom osteoporosis had been diagnosed by dual-energy X-ray absorptiometry in our hospital between 1996 and 2000 and who were not engaged in regular weekly programs of moderate or hard exercise. Women who agreed to participate were randomly assigned to participate in a twice-weekly exercise class or to not participate in the class. We measured baseline data and, 20 weeks later, changes in static balance (by dynamic posturography), dynamic balance (by a timed figure-eight run) and knee extension strength (by dynamometry). RESULTS: Of 93 women who began the trial, 80 completed it. Before adjustment for covariates, the intervention group tended to have greater, although nonsignificant, improvements in static balance (mean difference 4.8%, 95% confidence interval [CI] -1.3% to 11.0%), dynamic balance (mean difference 3.3%, 95% CI -1.7% to 8.4%) and knee extension strength (mean difference 7.8%, 95% CI -5.4% to 21.0%). Mean crude changes in the static balance score were -0.85 (95% CI -2.91 to 1.21) for the control group and 1.40 (95% CI -0.66 to 3.46) for the intervention group. Mean crude changes in figure-eight velocity (dynamic balance) were 0.08 (95% CI 0.02 to 0.14) m/s for the control group and 0.14 (95% CI 0.08 to 0.20) m/s for the intervention group. For knee extension strength, mean changes were -0.58 (95% CI -3.02 to 1.81) kg/m for the control group and 1.03 (95% CI -1.31 to 3.34) kg/m for the intervention group. After adjustment for age, physical activity and years of estrogen use, the improvement in dynamic balance was 4.9% greater for the intervention group than for the control group ($p = 0.044$). After adjustment for physical activity, cognitive status and number of fractures ever, the improvement in knee extension strength was 12.8% greater for the intervention group than for the control group ($p = 0.047$). The intervention group also had a 6.3% greater improvement in static balance after adjustment for rheumatoid arthritis and osteoarthritis, but this difference was not significant ($p = 0.06$). INTERPRETATION: Relative to controls, participants in the exercise program experienced improvements in dynamic balance and strength, both important determinants of risk for falls, particularly in older women with osteoporosis.

61: Phelan EA, Williams B, Leveille S, Snyder S, Wagner EH, & LoGerfo JP. (2002). Outcomes of a community-based dissemination of the health enhancement program. *J Am Geriatr Soc. Sep;50(9):1519-24.*

**Department of Medicine, Division of Gerontology and Geriatric Medicine, School of Public Health and Community Medicine, Seattle, Washington 98104, USA.
phelane@u.washington.edu**

Abstract: OBJECTIVES: We previously found in an efficacy trial that a health promotion program prevented functional decline and reduced hospitalizations in community-dwelling older people with chronic conditions. We sought to evaluate the effectiveness of the program in its dissemination phase. DESIGN: Outcome evaluation using a within-group, pretest-posttest design. SETTING: Fourteen senior centers located throughout western Washington. PARTICIPANTS: Three hundred four community-dwelling men and women aged 65 and older. INTERVENTION: A disability-prevention, chronic disease-self-management program. MEASUREMENTS: Participant characteristics, risk factors for disability, change in health and functional status, and healthcare use over 1 year of enrollment; participant satisfaction. RESULTS: Participants were 71% female, had a mean age of 76, and reported three chronic health conditions on average. The percentage of participants found to be depressed decreased (28% at time of enrollment vs 17% at 1-year follow-up, $P = .005$). The percentage of physically inactive participants decreased (56% vs 38%, $P = .001$). Physical activity level and exercise readiness improved (Physician-based Assessment and Counseling for Exercise mean score 4.3 vs 5.1, $P = .001$). At follow-up, 83% rated their health the same as or better than a year ago, compared with 73% at time of enrollment. The proportion with impaired functional status, as measured by bed days and restricted activity days, stayed the same. The proportion hospitalized remained stable (23% at enrollment and follow-up, $P = 1.0$). CONCLUSIONS: Under real world conditions, the Health Enhancement Program reaches older people at risk of functional decline. Those enrolled for 1 year experience a reduction in disability risk factors, improvement in health status, no decrements in functional status, and no increase in self-reported healthcare use.

62: Resnick B. (2002). Testing the effect of the WALC intervention on exercise adherence in older adults. *J Gerontol Nurs.* Jun;28(6):40-9.

University of Maryland, School of Nursing, Baltimore 21201, USA.

Abstract: The purpose of this study was to test the feasibility of the WALC intervention (Walk; Address pain, fear, fatigue during exercise; Learn about exercise; Cue by self-modeling), and determine its effects on self-efficacy and outcome expectations, exercise activity and free living activity, physical and mental health status, and falls and fall-related injuries. A total of 17 sedentary older women with a mean age of 88 +/- 3.7 years were randomly assigned to receive either the WALC intervention or routine care. Ninety percent of those in the treatment group initiated and engaged in a regular exercise program during the 6 months of the study. There was a statistically significant difference in self-efficacy expectations, exercise behavior, and overall activity between the two groups. Those in the treatment group had stronger self-efficacy expectations related to exercise; engaged in more exercise and more free living activity; and although not statistically significant, had stronger outcome expectations following exposure to the WALC intervention when compared with those who received routine care. To help older adults initiate and adhere to an exercise program, nurses can easily implement the WALC intervention in a variety of settings.

63: Hogan M. (2005). Physical and cognitive activity and exercise for older adults: a review. *Int J Aging Hum Dev.* 60(2):95-126.

Department of Psychology, National University of Ireland, Galway, Ireland. michael.hogan@nuigalway.ie

Abstract: Age-related reduction in musculoskeletal, cardiovascular, and central nervous system resilience can result in wide-ranging limitations in adaptive capacity associated with negative outcomes such as cognitive decline, increased risk of cardiovascular disease, mobility problems, and increased incidence of debilitating falls. This article reviews the benefits of both cognitive and physical activity within the broad context of multiple system resilience in adult aging. Research on a unique form of combined physical/cognitive exercise, Tai Chi Chuan, is presented. The relationship between physiological and psychological gain associated with an activity intervention program is discussed in light of principles of rehabilitation, intervention compliance, subjective and objective gain, and the hypothesized value of combining physical exercise, cognitive exercise, and relaxation into a single program designed to promote resilience in older adults.

64: Jorstad-Stein EC, Hauer K, Becker C, Bonnefoy M, Nakash RA, Skelton DA, & Lamb SE. (2005). Suitability of physical activity questionnaires for older adults in fall-prevention trials: a systematic review. *J Aging Phys Act.* Oct;13(4):461-81.

Warwick Emergency Care and Rehabilitation, Warwick Medical School, University of Warwick, Coventry, UK.

Abstract: The purpose of the study was to identify physical activity questionnaires for older adults that might be suitable outcome measures in clinical trials of fall-injury-prevention intervention and to undertake a systematic quality assessment of their measurement properties. PubMed, CINAHL, and PsycINFO were systematically searched to identify measurements and articles reporting the methodological quality of relevant measures. Quality extraction relating to content, population, reliability, validity, responsiveness, acceptability, practicality, and feasibility was undertaken. Twelve outcome measures met the inclusion criteria. There is limited evidence about the measures' properties. None of the measures is entirely satisfactory for use in a large-scale trial at present. There is a need to develop suitable measures. The Stanford 7-day Physical Activity Recall Questionnaire and the Community Health Activities Model Program for Seniors questionnaire might be appropriate for further development. The results have implications for the designs of large-scale trials investigating many different geriatric syndromes.

Appendix 2 Recommended Resources

Text Books & Manuals

Best-Martini, B. & Botenhagen-DiGenova, K. (2003). *Exercise for Frail Elders*. Champaign, IL: Human Kinetics.

Format: Text 240 pages

Abstract: *Exercise for Frail Elders* is a reference for professionals working with frail elders and adults with special needs in specialized settings in the home or institutional settings. It may also be used by health agencies providing personal assistance, nursing, and functional skill training to older adults in their homes. The text shows practitioners how to promote a sense of enjoyment and social connectedness in an exercise program. The information is presented in a user-friendly format and includes reference charts, forms, checklists, and exercise recommendations for a comprehensive list of diseases and disorders.

Brill, P. A. (2004). *Functional Fitness for Older Adults*. Champaign, IL: Human Kinetics.

Format: Text 129 pages

Abstract: *Functional Fitness for Older Adults* is an illustrated guide that includes a variety of specialized activity programs developed to meet the specific needs of older adults. Exercises are clearly illustrated and are designed to improve upper and lower body strength, balance, range of motion, and functional performance. This text is designed for professionals working with older adults.

Bryant, C. (2005). *ACE's Guide to Resistance Training for Older Adults 2nd Edition*. San Diego, CA: American Council on Exercise:

Format: Text 291 pages

Abstract: *American Council on Exercise's Guide to Resistance Training for Older Adults* is a guide to providing older adults with safe and effective fitness programming, with topics ranging from the physiology of aging to motivation and communication techniques. Recognizing the importance of strength training to the older adult's overall health and fitness, this new edition features a detailed discussion of strength training, including four full-body workouts that utilize equipment ranging from household items to sophisticated resistance machines. The guide is suitable for personal trainers, group fitness instructors, activity directors, health educators and fitness facility managers, who will benefit from this resource.

Burbank, P., & Riebe, D. (2002). *Promoting Exercise and Behavior Change in Older Adults: Interventions with the Transtheoretical Model*. New York: Springer.

Format: Text 317 pages

Abstract: The text describes how the transtheoretical model can be used to help older adults with motivation and the varying needs and abilities to change their exercise behaviors. The transtheoretical model of change in health psychology explains or predicts a person's success or failure in achieving a proposed behavior change, such as developing different habits. It attempts to answer why the change "stuck" or alternatively why the change was not made.

Ettinger, W., Wright, B., & Blair, S. (2006). *Fitness After 50*. Champaign, IL: Human Kinetics.
Format: Text 256 pages

Abstract: *Fitness After 50* is an easy-to-understand manual that serves as a self-paced workbook with more than 50 forms, lists and other learning tools to answer any questions an older adult might have about starting physical activity over 50 years. Topics in the book include: what to ask your doctor about physical activity; how to exercise safely with an existing medical condition; and how to fit activity into a busy schedule.

Fekete, M. (2005). *Strength Training For Seniors*. Toronto: Key Porter Books.
Format: Text 128 pages

Abstract: *Strength Training for Seniors* is a comprehensive guide to strength training and conditioning for seniors. The text includes both theory and specific exercises for improving health and fitness, while maintaining seniors' mobility and motor skills. The text highlights several long-term studies that have confirmed that strength is one of the key aspects of general fitness that can be improved and maintained to a very late age. A higher level of strength has a positive influence on the hormonal and immune systems, builds stronger bones, and helps prevent such age-related diseases such as diabetes and osteoporosis.

Jones, C. J., & Rose, D. J. (2005). *Physical Activity Instruction of Older Adults*. Champaign, IL: Human Kinetics.
Format: Text 346 pages

Abstract: *Physical Activity Instruction of Older Adults* details the fundamental knowledge and skills associated with the training modules outlined in the *International Curriculum Guidelines for Preparing Physical Activity Instructors of Older Adults*. The text is comprehensive for professionals that blends theory, practical content, and detailed instruction for developing effective physical activity programs for older adults with diverse functional capabilities.

Larson, J. M., & Meyer, M. H. (2006). *Generations Gardening Together: Sourcebook for Intergenerational Therapeutic Horticulture*. Crop science. New York: Food Products Press.
Format: Text 101 pages

Abstract: This text presents a pre-tested, hands-on, easy-to-use activity plan that benefits the development of relationships between adults over 70 years and school-age children. It demonstrates how to limit frustration for both groups, how to plan activities that are functional and how to assure that the interaction between older adults and children is enjoyable. The activities provided in the text rely on inexpensive tools and resources readily available throughout the growing season.

National Institute on Aging. (2006). *Fitness Over Fifty: An Exercise Guide From The National Institute On Aging 2nd Edition*. New York: Healthy Living Books, Hatherleigh Press.
Format: Text 180 pages

Abstract: *Fitness Over Fifty* is an illustrated guide for men and women aged fifty and older. It includes safety tips, ways to get and stay motivated, tips on nutrition and healthy eating, and more. The text presents twenty-five, easy-to-practice exercises for improving mature men's or women's basic health, physical fitness, and emotional sense of well-being. The National Institute on Aging is part of the National Institute of Health and has the mission of improving the health of older people.

Patterson, I. R. (2006). *Growing Older: Tourism and Leisure Behaviour Of Older Adults*. Wallingford, Oxfordshire, UK: CABI Pub.

Format: Text 240 pages

Abstract: *Growing Older* examines the most recent research literature on tourism and the leisure needs of older people. The text covers the behaviours, characteristics and special requirements of the older adults and provides examples of good practice and service provision. The book highlights the importance of understanding this population and suggests ways to effectively promote and provide leisure services for the aging population.

Pegrum, J. (2006). *Ageless Yoga: Gentle Workouts For Health and Fitness*. New York: Sterling Pub.

Format: Text 126 pages

Abstract: *Ageless Yoga* is a manual that provides a simplified, safe, and fully illustrated approach to yoga. The yoga program is tailored to people over-50 years and has adapted the poses so that newcomers can perform them without strain (all exercises are designed to meet the health needs of older practitioners). The program incorporates common props such as chairs, belts and bolsters that reduce the risk of joint and muscle injury. The benefits of yoga include increased agility, enhanced mobility of joints, and improved circulation regardless of age or ability. The program is also intended to help reduce the symptoms of menopause and the inflammation associated with arthritis.

Rose, D. (2003). *Fallproof!: A Comprehensive Balance and Mobility Training Program*. Champaign, IL: Human Kinetics.

Format: Text 299 pages

Abstract: *Fallproof!* is a practical manual that blends the latest theory and interventions of fall prevention into useful applications. The resource is intended for use by activity directors of programs for older adults, and would be helpful for assessing and designing programs to improve mobility and balance.

Spirduso, W. W., Francis, K. L., & MacRae, P. G. (2005). *Physical Dimensions of Aging*. Champaign, Ill: Human Kinetics.

Format: Text 374 pages

Abstract: *Physical Dimensions of Aging* is an introduction to aging process and the physical changes that occur. The text addresses the physical affects of aging and how it affects us cognitively, psychologically, socially, and spiritually. The text provides a synthesis of current outcomes of recent research studies on aging and their practical implications for older adults and professionals in the field of health and gerontology.

Westcott, W. & Baechle, T. (2007). *Strength Training Past 50 2nd Edition*. Champaign, IL: Human Kinetics.

Format: Text 208 pages

Abstract: *Strength Training for Seniors* focuses on the health needs of people over 50 years. The text provides information on the special concerns of workout plans and regimen for older adults including osteoarthritis sufferers, as well as modification of exercise plans to suit the extremely unfit or for those of advanced old age. As well, the text provides detailed illustrations and diagrams for all the exercise procedures.

Zhu, W., & Chodzko-Zajko, W. J. (2006). *Measurement Issues In Aging and Physical Activity: Proceedings of The 10th Measurement and Evaluation Symposium*. Champaign, IL: Human Kinetics.

Format: Text 208 pages

Abstract: *Measurement Issues in Aging and Physical Activity* examines the multicultural factors related to physical activity promotion and intervention. Ideas introduced include using culture as a catalyst for active living and using culture-based physical activity as an alternative approach to promotion of active living. The reference further examines the benefits of and barriers to exercise in older adults; interventions to improve quality of life in older adults; advanced statistical methodologies, and issues regarding training of future aging research and measurement specialists. This reference is a comprehensive guide to the latest research on aging in measurement and physical activity.

Programs & Resource Kits

Centre for Activity and Aging. (1997- 2001). *Home Support Education & Exercise Program*. London, ON: Centre for Activity and Aging.

Format: Facilitator's guide 120 pages, participant manual 20 pages, promotional material & DVD/VHS | Length: 42 minutes

Abstract: The *Home Support Exercise Program (HSEP)* is an evidence-based in-home exercise program developed for the frail elderly living with limited mobility in the community. It is comprised of 10 simple, progressive exercises designed to enable older adults to enhance and/or maintain their functional mobility and independence. HSEP resources include a facilitator guide, resource manual, picture package, fridge magnets and video. A 8 hour workshop and training for the trainer workshop is offered by the Centre for Activity and Aging on the HSEP program. The HSEP program has been implemented and evaluated in Alberta and Ontario. The program was adapted by the Alberta Centre for Active Living in 2005 for aboriginal older adults.

Canadian Centre for Activity and Aging. (2005). *Get Fit For Active Living*. London, ON: Canadian Centre for Activity and Aging.

Format: Facilitator's guide 120 pages, participant manual 20 pages, promotional material & DVD/VHS | Length: 38 minutes

Abstract: *Get Fit for Active Living (GFAL)* is an 8 week education and exercise program for older adults developed by the Canadian Centre for Activity and Aging (CCAA). This program is designed to introduce older adults to active living and physical activity. It includes three hours of exercise classes and one hour of classroom lessons and discussion each week for participants in the program. Exercise sessions include accelerated walking or other cardio-respiratory activity, strength training using weight machines, resistance tubing and hand-held weights, balance, & flexibility, and functional fitness training. The classroom topics include: Benefits of physical activity; exercise adherence; cardiovascular endurance exercise; muscle strength and endurance; flexibility, stretching & balance; healthy eating; disease prevention; and exercising at home or in the community. The CCAA offers GFAL train the trainer sessions in London, ON.

Canadian Centre for Activity and Aging. (2000). *Restorative Care Education & Training*. London, ON: Canadian Centre for Activity and Aging.

Format: Program manual 121 pages & DVD/VHS | Length: 24 minutes

Abstract: *Restorative Care Education & Training (RCE)* is an evidenced based training program developed by the Canadian Centre for Activity and Aging. RCET is designed for staff and individuals working in long-term care facilities who want to learn how to develop an effective and beneficial restorative aid program with an emphasis on mobility, transfers, eating, and communication. The video serves as an enhancement tool for the training program and introduces the benefits of restorative care for those working in long-term care facilities. The CCAA offers RCET train the trainer sessions in London, ON.

Ottawa-Carleton Public Health & Long Term Care Branch. (2000). *Active Seniors: Program Manual*. Ottawa, ON: Capital Health - Community Rehabilitation Program.

Format: Text 73 pages & audio cassette 49 minutes

Abstract: *Active Seniors Program* was developed after extensive consultation with health and fitness experts and trained volunteers who work with older adults. The manual is accompanied by an audio-cassette with music and instructions in English and French.

Edmonton Capital Health Community Rehabilitation Program. (2003). *Active Anytime Anywhere: Older Adult Resource Kit*. Edmonton, AB: Capital Health, Community Rehabilitation Program.

Format: Program manual 179 pages & VHS | Length: 48 minutes

Abstract: *Active Anytime Anywhere* is a resource kit which promotes healthy active living for older adults by providing information and resources for this population and for those that work in the health and physical activity sectors. The resource kit includes a 60 minute exercise video.

Bouchard, Kathy & Osteoporosis Society of Canada. (2001). *BoneSmart: A Home Exercise Program for People with Osteoporosis and Those at Risk*. Ottawa, ON: Osteoporosis Society of Canada.

Format: Program manual 9 pages & VHS | Length: 38 minutes

Abstract: *BoneSmart* features exercises to help maintain strong bones, improve posture and balance, strengthen muscles, and increase flexibility. The video includes tips on how to move safely in daily activities, and reduce your risk of falling. The video is accompanied by two "resistance-bands" to be used with the video.

Health Canada. (2002). *Dare To Age Well! Healthy Aging - Physical Activity and Older Adults*. Ottawa, ON Health Canada, Division of Aging and Seniors

Format: Program manual 30 pages & CD ROM

Abstract: *Dare To Age Well!* was developed as a background paper for the Workshop on Healthy Aging: Aging and Health Practices, organized by Health Canada's Division of Aging and Seniors in 2001. Following a series of internal investigations the Division identified four key determinants that play key roles in healthy aging: healthy eating, injury prevention, physical activity and smoking cessation. This resource is a revised version of the original paper on physical activity, incorporating new research from experts and stakeholders.

Heart and Stroke Foundation of Nova Scotia. (2006). *Move More: Heart Smart Physical Basics (un-published)*. Halifax, NS: Heart and Stroke Foundation of Nova Scotia.

Format: Program binder and promotional material

Abstract: *Move More* is a physical activity program led by the Heart and Stroke Foundation of Nova Scotia. It is tailored to the beginner and for individuals who have been sedentary for some time. This program provides basic information on physical activity and guidance on how to start enjoying the benefits of an active lifestyle. The program helps participants discover simple ways to build activity into their day, using their own individual approach. Each week participants sample a variety of physical activities, from investigating local walking trails to stretching in a beginner yoga class. The program provides an introduction to a variety of activities in a supportive and social atmosphere. *Move More* program provincial partners are the: Nova Scotia Department of Health Promotion and Protection and Recreation Nova Scotia. *Move More* program has operated in the following areas of Nova Scotia: *Halifax, Bedford, Dartmouth, Cole Harbour, St. Margaret's Bay, Shelburne, Oxford, Cheticamp, Bridgewater, Barrington Passage and Lismore.*

National Indian & Inuit Community Health Representatives Organization. (2001). *Spirit in Motion: Active Living and Aboriginal Seniors*. Kahnawake, QC.

Format: Program manual 164 pages, participant manual 24 pages, VHS | Length: 28 minutes & Audio-cassette | Length: 27 min

Abstract: *Spirit in Motion* is a safe, gentle exercise program for physically capable older adults developed by the National Indian & Inuit Community Health Representatives Organization. The resource kit is intended for community and health leaders who work with aboriginal seniors and includes discussion topics and activities related to health and disease prevention, a native food guide, as well as sections dedicated to the wisdom of elders and aboriginal spirituality. The video demonstrates 15 safe exercises accompanied by aboriginal music. A 30-minute music cassette with a recording of the soundtrack from the video is also included. Finally, the package provides a poster on stretching and two relevant *In Touch* magazine articles on physical activity.

Page, P. (2004). *The Active Aging Toolkit: Promoting Physical Activity in Older Adults for Healthcare Providers*. Akron, OH: Hygenic Corp.

Format: Program manual 276 pages & promotional material

Abstract: *Active Aging Toolkit for Healthcare Providers* is an evidence-based activity toolkit to assist healthcare professionals to prescribe physical activity for older adults. The purpose of the toolkit is to instruct health professionals on how to offer specific interventions and programs to improve and promote health and functional ability in older adults. The toolkit provides techniques on behavioral counseling, physical assessment and goal setting. The kit includes the *First Step to Active Health* program provider manual, and participant education materials to help teach older adults how to safely begin a physical activity program. (The *First Step to Active Health Program* is a four-step physical activity program that can be altered to address sedentary older adults with or without chronic diseases). The toolkit format can be offered individually or in a group setting. It was developed as a collaborative effort between the National Blueprint Project (in the United States) and the Blueprint's Active Agency Partners.

Rikli, R. & Jones, J. (2001). *The Seniors Fitness Test Kit*. Champaign, IL: Human Kinetics.
Format: Program manual 176 pages, CD-ROM & DVD/VHS | Length: 24 minutes
Abstract: The *Senior Fitness Test* is a simple, easy-to-use battery of test items that assess the functional fitness of older adults. The test is safe for older adults and meets scientific standards for reliability and validity. The *Senior Fitness Test Kit* can be used to assist professionals to motivate older adults and assess the major physiological components of functional capacity. The manual provides the theoretical base for the test. The software is a companion resource manual and aids the user in tracking, comparing and reporting the test scores. The video illustrates how to conduct seven individual fitness test items involving common activities such as getting up from a chair, walking, lifting, bending, and stretching.

Videos & DVDs

Black, B. (2006). *Garden Fitness With Blanche Black*. Victoria, BC: Fit as a Fiddle Productions.
DVD | Length: 40 minutes

Abstract: *Garden Fitness* is an instructional video on how to make time spent in the garden a safe fitness workout. The DVD introduces yoga principles of breath, movement, strength and the power of stability in garden tasks. It guides the viewer through 5 careful sessions that follow the cycle of warm-up, workout and stretch that can be incorporated into a gardening routine. The routine is suitable for the beginner or seasoned gardener. Black is an R.N., a registered strength trainer and fitness instructor with British Columbia Recreation and Parks Association (BCRPA) and Rehab Assistant with Therapy Services.

Blanche Black, B. (2000-1997). *Chair fitness: Box Set Volume 1, 2, & 3*. Victoria, B.C.: Fit As A Fiddle Production.

VHS/DVD | Length: 117 minutes

Abstract: *Chair Fitness* provides an enjoyable and effective workout including warm-up, resistance training, cool down and stretch. All exercises are performed from a chair. Muscles respond to exercises designed to improve strength and flexibility. Black is a R.N., a registered strength trainer and fitness instructor with British Columbia Recreation and Parks Association (BCRPA) and Rehab Assistant with Therapy Services.

Borden, J. (2006). *Senior Surge*. Raleigh, NC: IFTA Fitness.

DVD | Length: 55 minutes

Abstract: *Senior Surge* is a high energy interval workout designed for older adults alternating segments of aerobics and toning. The swing instrumental music and no down-on-the-floor toning make this resource ideal for older adults. The toning intervals use a chair and resistance tubing. The exercise routine provides a full range-of-motion designed to strengthen muscles as they improve your balance.

College of Family Physicians. (n.d.). *Active Aging: You can make a difference!*

Ottawa, ON: Health Canada & College of Family Physicians of Canada

VHS | Length: 22 minutes

Abstract: This video discusses the need for an active lifestyle among Canada's aging population, in order to help maintain a healthy population as it ages. It illustrates how family physicians in Canada can make a difference by encouraging an active living lifestyle through proactive health promotion.

Bryant, C. (2006). *American Council on Exercise's (ACE) Guide to Resistance Training for Older Adults (Revised Version)*. Monterey, CA: Healthy Learning & American Council on Exercise.

DVD/VHS | Length: 88 minutes

Abstract: *ACE's Guide to Resistance Training for Older Adults* illustrates effective resistance-training programming, from the importance of strength training to the special considerations that should be taken into account when designing strength-training programs for older adults. The video can serve as a stand-alone instructional aid or work in partnership with the *Exercise for Older Adults* textbook.

Lam, P. (1998). *Tai Chi for Older Adults*. Rancho Cordova, CA: East Acton Video.

DVD | Length: 110 minutes

Abstract: *Tai Chi for Older Adults* is specifically designed for older adults without any prior knowledge of Tai Chi. The movements taught on the video are instructed by Dr. Paul Lam, MD and are easy to learn, remember and practice. The techniques are designed to improve fitness levels, flexibility, relaxation and mental concentration in older adults. The video is based on Yang style Tai Chi, and includes a sitting Qigong for relaxation.

Prouty, J. & Gardiner, J. (2006). *Fit Over Fifty*. Monterey, CA: Healthy Learning Video/DVD & American College of Sports Medicine.

DVD | Length: 8 Discs-245 minutes

Abstract: *Fit Over Fifty* provides a series of eight relatively brief workouts that are easy to follow and fun to perform. The eight separate video programs feature: assisted stretch; total body stretch; light and easy aerobic workout; step workout; stability ball workout; balance workout; muscular conditioning workout; and the bottom line workout. The DVD set enables the user to mix and match the various workouts to meet their needs and interests.

Recreation Nova Scotia. (2001). *Older Adults-Get Active*. Halifax, NS: Recreation Nova Scotia.

VHS | Length: 12 minutes

Abstract: *Older Adults-Get Active* introduces recreation students, community leaders, and volunteers to the role that recreation plays in the lives of older adults and the barriers that many seniors encounter in participating in recreation programs.

Richard, M. (2001). *Exercise: A Video from the National Institute on Aging*. [United States]: National Institute on Aging, National Institutes of Health.

DVD/VHS | Length: 48minutes

Abstract: *Exercise* from the National Institute on Aging shows older adults how to you how start and stick with a safe, effective program of stretching, balance, and strength-training exercises. The video features Margaret Richard, host of *Body Electric*, PBS' exercise show. This video is a companion resource for the National Institute on Aging Exercise Guide.

Thompson, W. (1999). *The Aging of America: Implications for Exercise Programming*. Atlanta, GA: Georgia State University & American College of Sports Medicine.

VHS | Length: 44 minutes

Abstract: *The Aging of America: Implications for Exercise Programming* presents a review of the normal biological changes that occur in the various systems of the body as individual's age. This video examines the impact of those changes on an individual's level of functional capacity and discusses the implications of these changes for exercise programming.

Schlorholtz, J. (2006). *Chair, Floor & Standing Ageless Yoga (2 Vol. Set): Exercise for All, Including for Seniors & for Arthritis & Disabilities*. Cambridge, MA: Ageless Yoga.

DVD | Length: 240 minutes

Chair, Floor & Standing Ageless Yoga provides numerous routines ranging from 5 to 75 minutes that are for varied levels of yoga. The yoga routines are suitable for the older adults and disabled individuals who are stiff and lack flexibility including those with medical conditions such as arthritis. The routines concentrate on increasing joint freedom, building strength, stretching, increasing balance, breathing, and relaxation techniques including meditation. Schlorholtz is an instructor at Harvard University's Centre for Wellness.

Sipe, C. (2007). *Effective Fitness Programs for Older Adults*. Monterey, CA: Healthy Learning & IDEA Health & Fitness Association.

DVD/VHS | Length: 88 minutes

Abstract: *Effective Fitness Programs for Older Adults* explores the diversity of the older-adult population, while identifying key strategies to make fitness programming for this unique group more effective. The DVD details how to meet the diverse physical, social, and emotional needs of the majority of sedentary older adults.

Sipe, C. (2007). *Power Training for Older Adult Function*. Monterey, CA: Healthy Learning & IDEA Health & Fitness Association.

DVD/VHS | Length: 85 minutes

Abstract: *Power Training for Older Adult Function* reviews why the development of muscle power is a potentially essential strategy for maintaining function as people age. In an easy to-understand and muscle strengthening program. The DVD examines the current evidence in support of power training and describes effective training techniques as well as identifying relevant safety issues to consider for this mature adults. It demonstrates exercise movements that are integral to effective power training for older adults.

Swayzee, N. (1998). *Fitness Forever Senior Exercise Video*. Truckee, CA: Fresh Air Media & Lake Tahoe Forest Hospital.

VHS/DVD | Length: 76 minutes

Abstract: *Fitness Forever* is a medically based exercise program designed specifically for older adults and individuals focused on active aging. This video is specifically designed to meet the varied needs of older adults, to help improve overall health and raise the user's level of fitness, thereby reducing the risk of injury and illness. The video is based on the nationally recognized seniors fitness program of the same name developed by Tahoe Forest Hospital and is suitable for both home and institutional use.

Fitness Forever was the recipient of a *National Council on Aging's Molly Mettler Award for Excellence in Health Promotion* and is approved by the *American College of Sports Medicine (ACSM)*.

Westcott, W. (2003). *Strength Training for Seniors*. Monterey, CA: Healthy Learning & National Strength and Conditioning Association.

DVD/VHS | Length: 41 minutes

Abstract: *Strength Training for Seniors* presents a comprehensive overview of the fundamentals and techniques involved in a sound strength training program for older adults. Detailing the numerous benefits that older adults can gain by strength training, the DVD provides step-by-step guidelines for designing a strength training program for seniors.

Electronic Downloadable File Resource List

All resources listed in this section were retrieved between January and February 2007 and are in *Adobe Reader* .pdf format. A free downloadable copy of the software *Adobe Reader Version 8* is available from the link <http://www.adobe.com/products/reader/>.

Please not all ULR links to the documents were re-tested for performance in May 2007.

Active Living Coalition for Older Adults (ALCOA)

Abstract: ALCOA's two main publications: *Research Update*; and *Active Living Tips*. These publications are released simultaneously. Both publications provide progressive and practical research outcomes in the field of older adults and physical activity in plain language for health practitioners, community leaders, and older adults. Below is a list of the topics covered and links in these publications. Each of these documents varies in length, and but most are between 2 and 10 pages.

ALCOA. (2006). Physical Activity and Mental Health.
Issue #11.

Research Update http://www.alcoa.ca/research_u_docs/2006_04apr_en_update..pdf .

Active Living Tips http://www.alcoa.ca/research_u_docs/2006_04apr_en_tips..pdf .

ALCOA. (2005). Ageism and Active Living: Recognizing Social Barriers to Older Adult Participation.

Issue #10.

Research Update http://www.alcoa.ca/research_u_docs/2005_04apr_en_update..pdf .

Active Living Tips http://www.alcoa.ca/research_u_docs/2005_04apr_en_tips..pdf .

ALCOA. (2004). Physical Activity and Coronary Heart Disease: It Is Never Too Late to Benefit.
Issue # 9.

Research Update http://www.alcoa.ca/research_u_docs/2004_10oct_en_update..pdf .

Active Living Tips http://www.alcoa.ca/research_u_docs/2004_10oct_en_tips..pdf .

ALCOA. (2004). Research to Action: Aging, Arthritis and Active Living.
Issue # 8.

Research Update http://www.alcoa.ca/e/action/2004_10oct_research_toaction..pdf .

Active Living Tips http://www.alcoa.ca/e/action/2004_10oct_tips..pdf .

ALCOA. (2004). Exercise Programming for Alzheimer Disease and Related Dementias.
Issue # 7.

Research Update http://www.alcoa.ca/research_u_docs/2004_03mar_en_update..pdf .

Active Living Tips http://www.alcoa.ca/research_u_docs/2004_03mar_en_tips..pdf .

ALCOA. (2003). Healthy Eating and Regular Physical Activity a Winning Combination for Older Adults.

Issue # 6.

Research Update http://www.alcoa.ca/research_u_docs/2003_12dec_en_update..pdf .

Active Living Tips http://www.alcoa.ca/research_u_docs/2003_12dec_en_tips..pdf .

ALCOA. (2003). Aerobic Fitness for Older Adults.

Issue # 5.

Research Update http://www.alcoa.ca/research_u_docs/2003_05may_en_update..pdf.

Active Living Tips http://www.alcoa.ca/research_u_docs/2003_05may_en_tips..pdf.

ALCOA. (2003). Monitoring and Evaluating Physical Activity Programs for Older Adults.

Issue # 4.

Research Update http://www.alcoa.ca/research_u_docs/2003_03mar_en_update..pdf.

Active Living Tips http://www.alcoa.ca/research_u_docs/2003_03mar_en_tips..pdf.

ALCOA. (2002). How to Prevent Falls in Adults Over 65.

Issue # 3.

Research Update http://www.alcoa.ca/research_u_docs/2002_11nov_en_update..pdf.

Active Living Tips http://www.alcoa.ca/research_u_docs/2002_11nov_en_tips..pdf.

ALCOA. (2002). The Power of Strength Training for Older Adults.

Issue # 2.

Research Update http://www.alcoa.ca/research_u_docs/2002_03mar_en_update..pdf.

Active Living Tips http://www.alcoa.ca/research_u_docs/2002_03mar_en_tips..pdf.

ALCOA. (2001). Diabetes and Walking.

Issue #1.

Research Update http://www.alcoa.ca/research_u_docs/2001_05may_en_update..pdf.

Active Living Tips http://www.alcoa.ca/research_u_docs/2001_05may_en_tips..pdf.

ALCOA & O'Brien-Cousins, S. (2005). *Overcoming Ageism in Active Living*. Toronto, ON: Active Living Coalition for Older Adults.

Retrieved from http://www.alcoa.ca/el.pdf/overcoming_ageism..pdf

Format: Electronic downloadable file 47 pages in .pdf format

Abstract: Ageism is discrimination based on age. This report provides a number of initiatives and recommendations designed to address ageism as it relates to active living and physical activity for older adults.

Health Canada

Health Canada. (2002). *Healthy Aging: Physical Activity and Older Adults*. Ottawa: Health Canada.

Retrieved from <http://dsp-psd.communication.gc.ca/Collection/H39-612-2002-4E..pdf>.

Format: Electronic downloadable file 17 pages in .pdf format

Abstract: This document on Physical Activity and Older Adults was developed as a background paper for the *Workshop on Healthy Aging: Aging and Health Practices*. Organized by Health Canada's division of Aging and Seniors in November 2001. This document is a revised version of one of the papers on physical activity, incorporating comments from experts and stakeholders.

Health Canada. (2002). *Canada's Physical Activity Guide to Healthy Active Living for Older Adults: Handbook*. [Ottawa]: Health Canada.

Retrieved from

http://www.phac-aspc.gc.ca/pau-uap/fitness/.pdf/guide_handbook_older..pdf.

Format: Electronic downloadable file 28 pages in .pdf format.

Abstract: *Canada's Physical Activity Guide for Older Adults* provides information for this target population why physical activity is important, and practical motivation tips. The guide highlights easy ways to increase older adult's physical activity levels and the amount of activity required to maintain good health and improved quality of living later in life.

International Council on Active Aging (ICAA)

ICAA. (2002). *Age-Friendly Facilities: 99 Questions to Assess Your Center*. Vancouver, BC: International Council on Active Aging, North Carolina Office on Disability and Health.

Retrieved from

<http://www.icaa.cc/Journal%20on%20Active%20Aging/Journalarticles/Journalarticles%207/Checklist..pdf>

Format: Electronic downloadable file 16 pages in .pdf format

Abstract: The ICAA and the North Carolina Office on Disability and Health developed this comprehensive checklist to evaluate how usable, safe and inviting a facility is for older adults. This resource is intended to help assess and improve a facility's age-friendliness.

ICAA. (2002). *How to Select an Age-Friendly Personal Trainer*. Vancouver, BC: International Council on Active Aging.

Retrieved from <http://www.icaa.cc/FacilityLocator/icaapftguide..pdf>

Format: Electronic downloadable file 9 pages in .pdf format

Abstract: The ICAA has developed a question and answer checklist to assist older adults to select an age friendly personal trainer. This resource explains how to evaluate the trainer's answers to questions, and the checklist is provided in a format to record the responses.

ICAA. (2004). *Cultural Approaches to Promoting Physical Activity for Older Adults*. Vancouver, BC: International Council on Active Aging.

Retrieved from

http://www.icaa.cc/Journal%20on%20Active%20Aging/Journalarticles/Journalarticles18/culturalapproachestopromotion_physicalactivity..pdf.

Format: Electronic downloadable file 6 pages in .pdf format

Abstract: The ICAA developed this resource to assist professionals to take cultural approaches to promoting physical activity programs for older adults. The resource suggests a number of program development steps and recommendations for creating enjoyable and welcoming activities.

International Society for Aging and Physical Activity (ISAPA)

ISAPA. (2004). *International Curriculum Guidelines for Preparing Physical Activity Instructors of Older Adults*. Champaign, IL: International Society for Aging and Physical Activity.

Retrieved from http://www.isapa.org/guidelines/ICG_ISAPA..pdf.

Format: Electronic downloadable file 16 pages in .pdf format

Abstract: The *International Curriculum Guidelines for Preparing Physical Activity Instructors of Older Adults* is a consensus document that outlines each of the major content areas that experts recommend should be included in any entry-level exercise training program with the goal of preparing physical activity instructors to work with older adults. This curriculum was introduced at the 6th World Congress on Aging and Physical Activity held in London, Ontario, Canada (August 3 to 7, 2004). The principles and perspectives of the World Health Organization (WHO) *Active Aging Policy Framework* are also reflected in this document.

National Institute on Aging (NIA) [United States]

NIA. (2006). *Stay Safe in Cold Weather*. NIH publication number 06-7349. Washington, D.C.: U.S. Dept. of Health and Human Services, Public Health Service, National Institutes of Health, National Institute on Aging.

Retrieved from http://www.nia.nih.gov/NR/rdonlyres/2E5CDADE-FAD7-44BA-B0BE-E8764EAABB4F/0/Stay_Safe_In_Cold_Weather..pdf.

Format: Electronic downloadable file 16 pages in .pdf format

Abstract: *Stay Safe in Cold Weather* is a booklet on practical tips for older adults on how to stay safe when it is cold outside. The booklet includes information on the signs and symptoms of hypothermia and tips on what older adults should do to prevent it.

NIA. (2004). *Exercise: Getting Fit for Life*. Age Page. [Bethesda, Md.]: National Institute on Aging, U.S. Dept. of Health and Human Services, Public Health Service, National Institutes of Health.

Retrieved from http://www.niapublications.org/agepages/.PDF_s/Exercise_and_Physical_Activity-Getting_Fit_For_Life..pdf.

Format: Electronic downloadable file 6 pages in .pdf format

Abstract: *Exercise: Getting Fit for Life*, is a pamphlet designed to give older adults information on the four different types of exercise required to enjoy the benefits of physical activity. The pamphlet also provides information on safety and injury prevention among this age group.

NIA. (2001). *Exercise: A Guide from the National Institute On Aging: Exercises, Motivation, Safety, Self-Tests, Benefits, Nutrition*. NIH publication, no. 01-4258. Washington, D.C.: U.S. Dept. of Health and Human Services, Public Health Service, National Institutes of Health, National Institute on Aging.

Retrieved from <http://www.niapublications.org/exercisebook/ExerciseGuideComplete..pdf>.

Format: Electronic downloadable file 88 pages in .pdf format

Abstract: *Exercise: A Guide From The National Institute on Aging* is a comprehensive manual on how to take the first steps towards an active lifestyle. The guide contains valuable information on why exercise is important and the health benefits for older adults. In addition, the guide contains motivational tips on how to maintain an active lifestyle, an exercise workout plan, activity and progress charts, as well as additional information in on healthy eating.

National Institutes of Health (NIH) [United States]

NIH. (2007). *Young at Heart, Tips for Older Adults: Healthy Eating & Physical Activity Across Your Lifespan*. NIH publication, no. 02-4993. Bethesda, MD: Dept. of Health and Human Services, Public Health Service, National Institutes of Health.

Retrieved from <http://www.win.niddk.nih.gov/publications/PDFs/youngatheart..pdf>.

Format: Electronic downloadable file 23 pages in .pdf format

Abstract: *Young at Heart* is a booklet on healthy eating and physical activity tips for older adults. The booklet provides the information in an easy to understand layout and design.

NIH. (2006). *Fit and Fabulous! As You Mature: Sisters Together, Move More, Eat Better*. NIH publication, no. 99-3329. Bethesda, MD: Dept. of Health and Human Services, Public Health Service, National Institutes of Health. Retrieved on January 2007

<http://www.win.niddk.nih.gov/publications/PDFs/FitandFabulous2004..pdf>.

Format: Electronic downloadable file 16 pages in .pdf format

Abstract: *Fit and Fabulous* is a booklet on healthy eating and physical activity tips for African American older adults. The booklet provides the information in an easy to understand layout and design.

American Council on Exercise (ACE)

ACE. (2001). *ACE's Fit Facts How to Choose an Exercise Video*. San Diego, CA: American Council on Exercise.

Retrieved from http://www.acefitness.org/fitfacts/.pdfs/fitfacts/itemid_125..pdf

Format: Electronic downloadable file 1 pages in .pdf format

ACE. (2001). *ACE's Fit Facts Active Seniors Enjoy Life More*. San Diego, CA: American Council on Exercise.

Retrieved from http://www.acefitness.org/fitfacts/.pdfs/fitfacts/itemid_14..pdf

Format: Electronic downloadable file 1 pages in .pdf format

Miscellaneous Resources

Go for Green. (n.d.). *Between the Rows: The Physical Benefits of Gardening*. Gloucester ON: Go for Green.

Retrieved from <http://www.goforgreen.ca/Gardening/.pdf/0393%20%20Eng..pdf>

Format: Electronic downloadable file 4 pages in .pdf format

Genoe, R. (2004). *Healthy Active Living for Seniors*. Halifax, NS: Nova Scotia Senior Citizens' Secretariat, Nova Scotia Department of Health: Office of Health Promotion.

Retrieved from http://www.gov.ns.ca/scs/pubs/Healthy_Active_Living_Seniors..pdf.

Format: Electronic downloadable file 44 pages in .pdf format

Abstract: *Healthy Active Living for Older Adults* is a discussion paper prepared for the Senior Secretariat and the Nova Scotia Department of Health Promotion & Protection on the topic of older adults and physical activity.

Seguin, R. A. (2002). *Growing Stronger: Strength Training for Older Adults*. Boston, MA: John Hancock Center for Physical Activity and Nutrition, Friedman School of Nutrition Science and Policy, Tufts University.

Retrieved from

http://www.cdc.gov/nccdphp/dnpa/physical/growing_stronger/growing_stronger..pdf.

Format: Electronic downloadable file 126 pages in .pdf format

Abstract: *Growing Stronger* is an exercise program based upon scientific research involving strengthening exercises and older adults. The exercises presented in this text have been shown to increase the strength of muscles, maintain the integrity of bones, and improve balance, coordination, and mobility in older adults. This strength-training program was developed by professionals at Tufts University and the Centers for Disease Control and Prevention (CDC).

Blueprint Documents & Policy Frameworks

ALCOA. (1999). *Moving Through the Years: A Blueprint for Action for Active Living and Older Adults*. Toronto, ON: Active Living Coalition for Older Adults.

Retrieved from <http://www.alcoa.ca/e/whatsnew/blueprint..pdf>.

Format: Electronic downloadable file 26 pages in .pdf format

Abstract: The *Blueprint* is a comprehensive policy aimed at enhancing the health and independence of Canada's seniors. This document is without authorship and grew out of a widely expressed need for consensus and direction to address the needs of older adults. The Blueprint provides a framework for governments, organizations that promote healthy, active aging, and older adults themselves upon which to design, develop, and deliver programs and services to Canada's fastest growing population. The Blueprint is the product of extensive consultation and collaboration among governments, seniors' organizations and health care providers. The policy reveals the values, beliefs and goals of a broad consensus of older adults and organizations who support active living in Canada.

Active Aging Partnership. (2001). *National Blueprint: Increasing Physical Activity Among Adults Age 50 and Older*. Urbana, IL: National Blueprint Partnership.

Format: Electronic downloadable file 21 pages in .pdf format

Retrieved from http://www.isapa.org/ISAPA_Newsletter/Final_Blueprint_Doc..pdf

Abstract: The *National Blueprint: Increasing Physical Activity Among Adults Age 50 and Older* was developed as a guide for organizations, associations and agencies to plan strategies to help people age 50 and older increase their physical activity. This plan synthesizes input from more than 60 individuals, representing 47 organizations with expertise in health, medicine, social and behavioral sciences, epidemiology, gerontology/geriatrics, clinical science, public policy, marketing, medical systems, community organization, and environmental issues. The *Active Aging Partnership* includes: AARP; American College of Sports Medicine; American Geriatrics Society; Centers for Disease Control and Prevention; The National Council on the Aging; The National Institute on Aging; and The Robert Wood Johnson Foundation.

World Health Organization. (2002). *Active Aging Policy Framework*. Geneva, Switzerland: Non-communicable Disease Prevention and Health Promotion Aging and Life Course, World Health Organization.

Retrieved from http://whqlibdoc.who.int/hq/2002/WHO_NMH_NPH_02.8..pdf

Format: Electronic downloadable file 60 pages in .pdf format

Abstract: This Policy Framework is intended to inform discussion and the formulation of action plans that promote healthy and active aging. It was developed by WHO's Aging and Life Course Program as a contribution to the Second United Nations World Assembly on Aging, held in April 2002, in Madrid, Spain.

Appendix 3 Recommended Internet Websites

Active Independent Aging

ULR address: www.falls-chutes.com/guide/english/intro/

Location: Ottawa, ON

Mission Statement: Not applicable.

Relevant Content: *Active Independent Aging* is an online interactive community guide for falls prevention and active living. The guide is designed to promote the health and independence of older adults and veterans by providing them information on falls prevention, active living options, and activity-friendly environments. The guide includes: Program ideas and information handouts; facts, quizzes and checklists; ready to use resources and activities; and a list of other print, video and web-based resources available on falls prevention and active living. The guide was a joint project developed in 2004 by the Community Health Research Unit, University of Ottawa, and the City of Ottawa Department of Public Health Services and Long Term Care.

Active Living Coalition for Older Adults (ALCOA)

ULR address: www.alcoa.ca

Location: Toronto, ON

Mission Statement: ALCOA, a partnership of organizations and individuals having interest in the field of aging, encourages older Canadians to maintain and enhance their well-being and independence through a lifestyle that embraces daily physical activities.

Relevant Content: ALCOA is recognized as one of the leaders in promoting the health of older adults through active living in Canada. Although the primary focus is on the promotion of physical activity, ALCOA recognizes the connection between physical health with social, mental, emotional and spiritual well-being. ALCOA undertakes public education and publication of educational material with respect to special projects within Canada regarding the health benefits of active living for older adults. A few projects that have been lead by ALCOA and its membership are: *Older, Old 80 plus Health Promotion Project*; *Overcoming Ageism in Active Living Project* and; *Active Living and Diabetes: A Prescription for Change Among Older Canadians*. The ALCOA is funded by Public Health Agency of Canada but has also received some funding from the Canadian Diabetes Strategy.

The ALCOA's website provides free downloadable *Research Updates* and *Active Living Tips*.

Canadian Centre for Activity and Aging (CCAA)

ULR address: www.uwo.ca/actage/

Location: London, ON

Mission Statement: To develop, encourage and promote an active, healthy lifestyle for Canadian adults that will enhance the dignity of the aging process.

Relevant Content: The CCAA is both a research and community resource institution. The centre is acknowledged as one of the foremost research centres in Canada dedicated to the study of older adults and physical activity. It is affiliated with the University of Western Ontario, St. Joseph's Health Care of London, and Lawson Health Research Institute. The mandate of the centre is to investigate the interrelationship of physical activity and ageing, and to develop strategies based on research, to promote the independence of older adults. The CCAA operates a number of research laboratories specializing in physiological testing and investigation. The CCAA offers certification program and educational training opportunities for fitness leaders and instructors. The centre has developed a community outreach and extensive resource services. The website houses a list of publications available to purchase related to the CCAA applied research and education programs as well as subscription to a quarterly e-newsletter.

Some of the current CCAA research projects and initiatives completed by the centre include:

- *Get Fit for Active Living (GFAL);*
- *Project to Prevent Falls in Veterans;*
- *Home Support Exercise Project (HSEP);*
- *Long-Term Care Exercise Research Project;*
- *Hip Fracture Interest Group Project;*
- *Restorative Care Education and Training Intervention; and*
- *Scientific Proceedings from the 6th World Congress on Aging and Physical Activity.*

Fifty-Plus Lifelong Fitness

ULR address: www.50plus.org

Location: Redwood City, CA

Mission Statement: To provide a longer and more independent lifestyle for mid-life and older adults by expanding awareness of and involvement in health and fitness activities.

Relevant Content: *Fifty-Plus Lifelong Fitness* (formerly Fifty-Plus Fitness Association) is a twenty-six year old non-profit organization whose mission is to promote an active lifestyle for older people. The organization started at Stanford University as an outgrowth of medical research on the value of exercise for older persons. Fifty-Plus publishes a newsletter, distributes books and videos, and sponsors physical activity events for mid-life and older adults. The website features motivation tips, resource links and a searchable online library of resources.

First Step to Active Health: Physical Activity for Sedentary Older Adults

ULR address: www.firststeptoactivehealth.com

Location: Akron, OH

Mission Statement: N/A

Relevant Content: The *First Step to Active Health Program* is an evidenced based progressive activity program for adults over 50 years. The program is a four-step physical activity program that can be altered to address sedentary older adults with or without chronic diseases. This website provides information for both older adults and healthcare providers on how to get started with the *First Step* program. The website provides downloadable excerpts from the program and clinical toolkits that are designed for healthcare providers and exercise professionals to provide the resources for implementing targeted physical activity programs.

International Council on Active Aging

ULR address: www.icaa.cc

Location: Vancouver, BC

Mission Statement: ICAA connects a community of like-minded professionals who share the goals of changing society's perceptions of aging and improving the quality of life for aging Baby Boomers and older adults within the six dimensions of wellness (emotional, vocational, physical, spiritual, intellectual, social). The council supports these professionals with education, information, resources, and tools, so they can achieve optimal success.

Relevant Content: The ICAA is an organization dedicated to altering the way people age by bringing together professionals in retirement, assisted living, and those in the fitness, rehabilitation and wellness fields to dispel society's myths about aging. The website features a number of useful downloadable resources relating to older adults and activity such as: *Age-Friendly Facilities: 99 Questions to Assess Your Centre; How to Select an Age-Friendly Personal Trainer; Footcare Resource Centre, and Walking & Wellness Program*. The site boasts a facility finder for older adults to locate a certified age friendly facility, yet only those who have paid membership to the Council are sited and no listings are provided for Nova Scotia. The Council publishes the *Journal on Active Aging*; however a few of the articles are less scientific and geared more for practical application or marketing

and sales. In addition, the ICAA host annual conferences. The next gathering is the *5th Annual Active Aging 2007, November 29 - December 1, 2007* to be held in Orlando, Florida

International Society for Physical Activity and Aging (ISAPA)

ULR address: www.isapa.org

Location: Urbana, IL

Mission Statement: The goal of ISAPA's mission is:

- To promote physical activity, exercise science, and fitness in the health and well-being of older persons;
- To promote international initiatives in research, clinical practice, and public policy in the area of aging and physical activity;
- To organize *World Congress on Aging and Physical Activity* approximately every 4 years;
- To serve as a liaison between various international, national, and regional professional groups with an interest in activity and aging; and
- To disseminate information about aging and physical activity through Journals and other publications.

Relevant Content: ISAPA describes its organization as an international not-for-profit society promoting research, clinical practice, and public policy initiatives in the area of aging and physical activity. ISAPA and its membership body have developed the consensus document entitled *International Curriculum Guidelines for Preparing Physical Activity Instructors of Older Adults*. The paper outlines each of the major content areas that experts recommend should be included in any entry-level training program with the goal of preparing physical activity instructors to work with older adults. The guidelines are available for downloading from the website along with an image gallery of older people participating in physical activity exercises and programs. The *Journal of Aging and Physical Activity* is the official journal of the ISAPA.

The 7th World Congress is scheduled July 26-29, 2008 in Tsukuba, Japan. The proposed theme for the congress in 2008 is "Active Aging: Focus on Longevity and Physical Activity".

National Blueprint-Partners Website

ULR address: www.agingblueprint.org

Location: Urbana, IL

Mission Statement: Identify the principal barriers to physical activity participation in older adults and to outline strategies for increasing physical activity levels throughout the population. The Blueprint identifies specific needs in the areas of research, home and community programs, workplace settings, medical systems, public policy and advocacy, and crosscutting issues.

Relevant Content: The website is dedicated to the promotion and distribution of the document entitled *The National Blueprint: Increasing Physical Activity Among Adults Age 50 and Older*. The Blueprint document was developed in 2001 as a guide for organizations, associations and agencies to plan strategies to help people age 50 and older increase their physical activity. The plan synthesizes input from more than 60 individuals, representing 55 organizations with expertise in health, medicine, social and behavioral sciences, epidemiology, gerontology/geriatrics, clinical science, public policy, marketing, medical systems, community organization, and environmental issues.

The content for the Blueprint Partners website is provided by the *Active Aging Partnership*. The AAP is a coalition of organizations that includes the American College of Sports Medicine; AARP, American Geriatrics Society, Centers for Disease Control & Prevention, and National Council on Aging. The website features an extensive list of organizations, resources, and website links.

New AGE Project: New Active Green Environments

ULR address: newage.als.uiuc.edu/concept.html

Location: Urbana, IL

Mission Statement: The New AGE Project gathers information on existing recreational and horticultural programs and facilities to develop a research plan, and construct a prototype New AGE facility.

Relevant Content: The *New AGE Project* is a design program for developing therapeutic recreational facilities in conjunction with attractive greenscapes. The program is specifically focused on improving the health and quality of life of older adults who are living independently, in retirement communities, or in convalescent facilities, providing a green alternative to indoor health clubs and physical therapy settings. The website features links to physical activity and aging as well as information on active living environments and facility design. The project began in 2003 and is affiliated with the University of Illinois at Urbana-Champaign, National Blueprint Project and the Active Living by Design Program. The project is sponsored by the Retirement Research Foundation.

The following are noteworthy websites with sections dedicated to older adults and physical activity:

Aging in the Know

ULR address: www.healthinaging.org/agingintheknow/chapters_ch_trial.asp?ch=11

Location: New York, NY

Mission Statement: The American Geriatrics Society Foundation for Health in Aging aims to build a bridge between the research and practice of geriatrics health care professionals and the public, and to advocate on behalf of older adults and their special needs: wellness and preventive care, self-responsibility and independence, and connections to the family and community.

Relevant Content: This website was created by the American Geriatrics Society Foundation for Health in Aging. *Aging in the Know* website offers timely information for older adults on health and aging. The content for site is based on resources the American Geriatrics Society has developed for its professional members. Physical activity is one of the topics covered on this website and provides a listing of resources, up to date research and organizations that focus on aging and physical activity.

American Community Garden Association (ACGA)

ULR address: communitygarden.org

Location: Columbus, OH

Mission Statement: The ACGA recognizes that community gardening improves the quality of life for people by providing a catalyst for neighborhood and community development, stimulating social interaction, encouraging self-reliance, beautifying neighborhoods, producing nutritious food, reducing family food budgets, conserving resources and creating opportunities for recreation, exercise, therapy and education.

Relevant Content: The ACGA is a bi-national (Canadian & United States) nonprofit membership organization of professionals, volunteers and supporters of community greening in urban and rural communities. Information on intergenerational gardening information and resources is available on the website.

AARP

ULR address: www.aarp.org

Location: AARP is active in every state, the District of Columbia, Puerto Rico, and the U.S. Virgin Islands

Mission Statement: AARP is dedicated to enhancing quality of life for all as we age. We lead positive social change and deliver value to members through information, advocacy and service.

Relevant Content: AARP is a nonprofit, nonpartisan membership organization for people age 50 and over. The organization provides a wide range of unique benefits, special products, and services for their members. The website offers a vast amount of information on a variety of topics for individuals over the age 50. It should be noted the website does contain marketing information and advertisements. Due to the numerous sections of information published on the website the areas dedicated to physical activity and aging are highlighted below.

Topics in Health: Physical Activity

ULR address: www.aarp.org/health/fitness/

Relevant Content: This section of AARP's website is the portal for information on health and physical activity programs.

Get Fit on Route 66

ULR address: aarp.getfitonroute66.com/

Relevant Content: *Get Fit on Route 66* is a fun physical activity adventure designed to inspire older adults to be more active as they trace the famous route of this virtual highway. In 2006, *Get Fit on Route 66* was recognized by the International Council on Active Aging (ICAA) with an innovation in physical activity programming award.

Health Well Being: Get Moving & Keep Active at 50 Plus

ULR address www.aarp.org/learntech/wellbeing/a2003-04-23-keepactivesession.html

Relevant Content: *Get Moving and Keep Active at 50 plus* is an online interactive lesson plan for older adults on physical activity. Sessions include information on: *Getting Started; Fitness in Motion; Finding the Time; Playing it Safe; Confronting Challenges; and Sticking to It.*

Step Up To Better Health: Walking Program That Gets Everyone Moving

ULR address: aarp.stepuptobetterhealth.com

Relevant Content: *Step Up To Better Health* is a motivating 10 week walking program designed to boost daily activity. Wearing a step counter and tracking your steps online is designed to inspire older adults to move more and enjoy the benefits of an active lifestyle. The website provides access to health and fitness articles, healthy recipes, and health-related resources on the web.

Center for Healthy Aging: Model Health Programs for Communities

National Council on Aging (NCOA)

ULR address: www.healthyagingprograms.com/content.asp?sectionid=112

Location: Washington, DC

Mission Statement: To improve the lives of older Americans.

Relevant Content: *Center for Healthy Aging* is a website of the NCOA. The Centre encourages and assists community-based organizations serving older adults to develop and implement evidence-based programs on: Health promotion; disease prevention; and chronic disease self-management. The Center serves as a resource clearinghouse for professionals and service providers to implement healthy aging programs. The *Physical Activity* section of the website provides links to manuals, toolkits, research examples of model health programs and links to websites on related physical activity topics for older adults.

Exercise for the Elderly

Familydoctor.org

ULR address: familydoctor.org/online/famdocen/home/seniors/staying/754.html

Location: Leawood, KS

Mission Statement: The Academy was founded in 1947 to promote and maintain high quality standards for family doctors who are providing continuing comprehensive health care to the public.

Relevant Content: This website is operated by the American Academy of Family Physicians (AAFP), a national medical organization representing family physicians, family practice residents and medical students. All of the information on this site has been written and reviewed by physicians and patient education professionals at the AAFP. The website features a section under senior's health on exercise. The section answers important questions such as; *Is it safe for me to exercise? How do I get started? What type of exercise should I do? When should I call my doctor? and What are some specific exercises I can do?*

Exercise for Older Adults

NIHSeniorsHealth.gov

ULR address: nihseniorhealth.gov/exercise/toc.html

Location: Bethesda, MD

Mission Statement: none provided

Relevant Content: *NIHSeniorHealth.gov* is a website for older adults that provides reliable, easy to understand online health information on a variety of topics and conditions. This site was developed by the National Institute on Aging (NIA) and the National Library of Medicine (NLM) and the National Institutes of Health (NIH). The website section, *Exercise for Older Adults* features an interactive tool that provides articles on: *Benefits of Exercise; Safety Tips; Exercise to Try; Charting Progress; Frequently Asked Questions; and Exercise Stories*. The tool was first developed in 2002 but was later updated in 2005 to reflect new information on the topic. Unique to this website are tools for improving the viewing of website content by older adults (i.e. ability to increase text size & contrast, and a talking or speech reading ability of the content for visually impaired). The website has received recognition and awards. In particular, the International Council on Active Aging (ICAA) awarded NIHSeniorHealth.gov the *Industry Innovators Award* in 2003.

Exercise for Seniors

MedlinePlus

ULR address: www.nlm.nih.gov/medlineplus/exerciseforseniors.html

Location: Bethesda, MD

Mission Statement: none provided

Relevant Content: *MedlinePlus* website brings together trustworthy information from the National Library on Medicine, the National Institutes of Health (NIH), and other government agencies and health-related organizations. The section on *Exercise for Seniors* features an overview on the topic including the latest news, specific conditions, related issues, tutorials, information on anatomy/physiology and website links to major organizations associated with older adults and exercise. In addition, the website has a pre-formulated MEDLINE search that gives easy access to medical journal articles on seniors and exercise.

Fitness

Aging Well: A Health Wellness Village for Mature Adults

ULR address: agingwell.state.ny.us/fitness/index.htm

Location: Albany, NY

Mission Statement: It is the mission of the New York State Office for the Aging to help older New Yorkers to be as independent as possible through the advocacy, development and delivery of cost effective policies, programs and services which support and empower the elderly and their families in partnership with the network of public and private organizations which serve them.

Relevant Content: *Aging Well* is a website developed by the New York State Office for Aging. The website provides information on eating well, fitness, safety, self care, prescriptions and library of resources for older adults. The section on *Fitness* provides material on older adults and fitness topics such as: *Consulting Your Doctor*; *Signs of Overexertion: How To Improve Balance*; *Strength and Range of Motion Exercises*; *Fitness Facts For Older Adults*; and *websites links*.

Live Well, Live Long

Exercise for Life! A Physical Activity Program for Older Adults

ULR address: www.asaging.org/cdc/module6/home.cfm

Location: San Francisco, CA

Mission Statement: Not applicable.

Relevant Content: The American Society on Aging has developed the *Live Well, Live Long* health promotion and disease prevention strategies, materials, and website to enhance the capacity of national, state and local organizations to meet the needs of older adults to address positive aging. The physical activity component of the website provides various practical tools and downloadable free resources (e.g. facilitators and participant guide, motivation and communication tips for working with older adults, resource list, website links etc.) for professionals and community members to develop a physical activity community based program for older adults. The Live Well, Live Long program is funded through a grant from the Centers for Disease Control and Prevention (CDC).

Human Kinetics

ULR address: www.humankinetics.com

Location: Champaign, IL

Mission Statement: To produce innovative, informative products in all areas of physical activity that help people worldwide lead healthier, more active lives.

Relevant Content: Human Kinetics is a privately held company that synthesizes vast amounts of information and research on physical activity. Human Kinetics produces textbooks, consumer books, software, videos, audiocassettes, journals, as well as distance online education courses. The website provides a separate list of the professional and personal resources to purchase on aging and physical activity.

The Canadian version of the Human Kinetics' distance online education centre is available from the following link canfitpro.hkeducationcenter.com.

**Physical Activity for Everyone: Are There Special Recommendations For Older Adults?
Centre for Disease Control and Prevention**

ULR address: www.cdc.gov/nccdphp/dnpa/physical/recommendations/older_adults.htm

Location: Atlanta, GA

Mission Statement: To promote health and quality of life by preventing and controlling disease, injury, and disability.

Relevant Content: This section of the CDC website provides special recommendations for older adults on physical activity, importance of heart health and aerobic activity as well as the challenges often associated with getting moving. The website features website links to resources as well as the CDC's *Growing Stronger: Strength Training for Older Adults* program.

Population Old Adults

Alberta Centre for Active Living (ACAL)

ULR address: www.centre4activeliving.ca/category.cgi?c=1;s=4

Location: Edmonton, AB

Mission Statement:

Relevant Content: The ACAL is a key advocate of physical activity and a primary source of research and education on physical activity for health practitioners, organizations, and decision-makers in Alberta. The website offers a listing of programs, resources, quick fact sheets, advocacy and policy information, key websites and links to academic journal articles on physical activity and older adults. The website also provides information on project an evidence-based physical activity intervention for frail elderly people who live in Alberta communities entitled *Active Independence: Home Support Exercise Program*. The ACAL receives funding from Alberta Tourism, Parks, Recreation and Culture, the Alberta Sport, Recreation, Parks & Wildlife Foundation, and the Faculty of Physical Education and Recreation at the University of Alberta.

Older Adults Do it!

Forever In Motion: Physical Activity... Do it for Life!

ULR address: www.in-motion.ca

Location: Saskatoon, SK

Mission Statement/Purpose: The primary objective of the *In Motion Older Adult Initiative* is to:

- Facilitate and coordinate the support required for older adults with a focus on a physical activity initiative to meet the vision of *In Motion*.
- To improve the health of the older adult community.
- To ensure sustainability of the older adult physical activity programs.

Relevant Content: *Forever...in motion* program was developed with the general goal of increasing opportunities for physical activity among older adults and is geared to Congregate Housing Complexes, Senior Residence and Senior Organizations. The program is sponsored by the Saskatoon Health Region. Under the section Older Adults Do it! articles on the following can be found: *Benefits for Older Adults; Fit Facts for Older Adults Great Ideas for Older Adults; Walking Workout Challenge; Frequently Asked Questions and website links.*

Appendix 4 Survey Questions

Instructions

- ⇒ Please respond to the following questions and statements as accurately as possible.
- ⇒ Please print your written responses.
- ⇒ Please complete and submit your survey by **Friday, March 2, 2007**.

Active Living and Physical Activity Opportunities for Older Adults

1. Do you or your organization have any *programs, services, resources or infrastructure* (e.g., trails) designed to provide active living and physical activity opportunities for older adults?

yes

do not know

no (*If no, please skip to question 4*)

If yes, please describe them briefly. (*Please print*)

2. If you answered *yes* to Question 1, how do you or your organization *let older adults know* about these active living and physical activity opportunities? (*Check all that apply*)

recreation department booklet

do not know

flyer/pamphlet

calendar of events

poster

newsprint ad

web site

email

other form of communication (please specify _____)

3. Does your community/organization maintain a separate list of the active living and physical activity opportunities targeted towards older adults?

yes ⇒

no

do not know

a copy of the list, provide an internet link or provide the name of a contact person who could provide us with the list? (Please submit with your completed survey or list below)

yes _____

no

4. In your opinion, do the type of active living and physical activity opportunities available to older adults in your community adequately meet the needs of this population?
(Please check only one response)

- | | |
|----------|-------------|
| yes | do not know |
| somewhat | |
| no | |

Comments: *(Please print)*

5. In your opinion, do the number of active living and physical activity opportunities available to older adults in your community adequately meet the needs of this population?
(Please check one response)

- | | |
|----------|-------------|
| yes | do not know |
| somewhat | |
| no | |

Comments: *(Please print)*

6. Please complete the following statement, by indicating if the number of active living and physical activity opportunities for older adults in your community, over the past 12 months, has....
(Please check one response)

- | | |
|-----------------|-------------|
| increased | do not know |
| decreased | |
| stayed the same | |

Comments: *(Please print)*

7. Please identify any accomplishments you have had when trying to increase active living opportunities and physical activity levels among older adults in your community. *(Please print)*

8. Please identify any *challenges* you have encountered when trying to increase active living opportunities and physical activity levels among older adults in your community. **(Please print)**

9. What *more could be done* to increase active living opportunities and physical activity levels among older adults? **(Please print)**

Information Needs

10. What *types of tools, programs, services and resources* are you or your organization presently using to help support the development of active living and physical activity opportunities for older adults in your community? Please provide example(s). **(Please print)**

11. Where do *you or your organization* obtain information about developing, supporting, or promoting active living and physical activity opportunities for older adults? If possible, please provide the name of web site(s) or resource(s) that you have found to be useful? **(Please print)**

12. How do *you or your organization* stay up to date on current “best practice” information about active living and physical activities for older adults? (e.g., programs, research, policies, etc.) **(Please print)**

13. Do you have any *specific program* or *resource* information needs? (Check all that apply)

- disease specific conditions and exercise (e.g., heart disease, arthritis, diabetes)
- motivation and removing the barriers to physical activity
- community-based infrastructure and facilities (e.g., accessible guidelines, trail development)
- restorative care (e.g., chair/walker exercises)
- active living or physical activity opportunities for frail older adults
- active living or physical activity opportunities for active older adults
- inter-generational programming (e.g., youth and seniors walking program)
- active living or physical activity opportunities designed to prevent falls among older adults
- other (Please specify _____)

Comments: (Please print)

14. Is there a sufficient *amount of information* available to you or your organization on active living and physical activity for older adults in Nova Scotia?

yes
no

do not know

Comments: (Please print)

15. Please identify how you or your organization would prefer to access or receive information about active living and physical activities for older adults?

(Please rank your response in order of priority from 1-6. 1 representing your first preference and 6 representing your last preference.)

Please ✓ check only one response per option	1	2	3	4	5	6
resource clearinghouse (e.g. internet web-based resource that collects, organizes and shares information and resources on specific topics)						
training and workshops						
library of resources for loan (e.g., Books, Video/Audio tapes, CD/DVD, Program Manuals)						
by mail						
e-mail list-serve						
toll-free information line						

If other, please specify: **(Please print)**

16. Are you or your organization interested in participating in education and training sessions focusing on active living and physical activities for older adults?

yes

do not know

no (If no, please skip to question 18)

Comments: **(Please print)**

17. Please identify how would you or your organization prefer to receive education and training about older adults and physical activity?

(Please rank your response in order of priority from 1-4. 1 representing your first preference and 4 representing your last preference.)

<i>Please ✓ check one response per option</i>	1	2	3	4
online training or web based sessions				
regional lunch and learn sessions				
regional workshops or presentations				
provincial conferences				

If other, please specify: *(Please print)*

Verifying the Need for a Resource Clearinghouse

For the purposes of this survey, a resource clearinghouse can be defined as a mechanism for collecting, organizing, sharing and disseminating information and resources on active living and physical activity for older adults.

18. Do you feel there is a need for a resource clearinghouse?

yes
no

do not know

Comments: *(Please print)*

19. How would you or your organization prefer to *access information* from a resource clearinghouse?
(Please check ✓ one response)

- | | |
|----------------------------|-------------|
| internet web-based site | do not know |
| e-mail notices | |
| printed materials | |
| toll free information line | |
| public presentations | |

If other, please specify: *(Please print)*

20. The following features could be made available through a resource clearinghouse. Please identify the *level of importance* to you or your organization.

<i>Please ✓ check one response per feature</i>	<i>Very Important</i>	<i>Important</i>	<i>Somewhat Important</i>	<i>Not Important</i>
Providing information on best practice information and evidence based interventions				
Providing opportunities for sharing success stories and research findings				
Providing a regional (or provincial) inventory of available programs, services, resources and infrastructures				
Collecting, organizing, and disseminating information on education and training opportunities				
Collecting, organizing, and disseminating information on funding opportunities				
Collecting, organizing, and disseminating information on Jobs and Volunteer opportunities				
Providing web site links to resources and resource people				
Providing a resource lending library				
Providing provincial e-mail list-serve for networking and information sharing among practitioners				
Offering a toll-free information line				

If other, please specify: *(Please print)*

21. If a resource clearinghouse was developed, how should it be structured?

A new resource clearinghouse that focuses only on older adults and physical activity

A new topic area added to an already existing web site resource clearinghouse

(e.g., Activekidsns.ca, Health Promotion Clearinghouse)

Do not know

Other (Please Specify _____)

Comments: *(Please print)*

22. Do you have additional comments or other recommendations on increasing active living and physical activity opportunities for older adults in Nova Scotia?

Comments: *(Please print)*

Part III – Demographic Information

Please provide the following information about you.

Age group:

0 – 21 years

22 – 44 years

45 – 64 years

65 – 84 years

Over 85 years

Sex:

Female

Male

Indicate the best category that describes you:

Please check ✓ only one response

recreational employee

member of a seniors' organization

provincial government employee

member of the academic

community

health promotion practitioner

community group representative

provincial group/association

representative

provincial association alliance

volunteer

student

fitness instructor

other (please specify

Type of area where you live:

- Rural
- Major town/city

Indicate your region:

Please check ✓ one

Highland Counties of Guysborough, Antigonish & Pictou

Cape Breton Cape Breton Island

Central The Municipality of Halifax

Fundy Counties of Cumberland & Colchester and the Municipality of East Hants

Valley Counties of Annapolis, Kings & Digby and the Municipalities of West Hants & Clare

South Shore & South West Counties of Shelburne, Queens, Lunenburg & Yarmouth

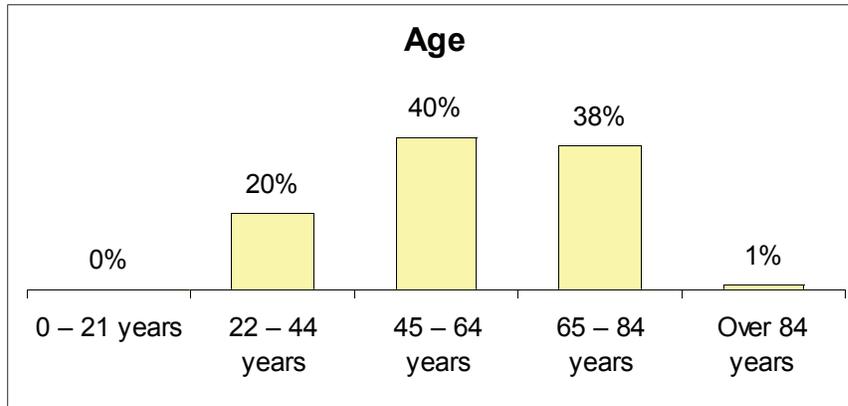
***Thank you for your time and consideration in responding to this survey.
Your frank and thoughtful responses will help determine the next steps towards increasing
active living opportunities for older adults in Nova Scotia.
Please fax or mail your completed questionnaire to by Friday, March 2, 2007.***

FAX (902) 792-2769

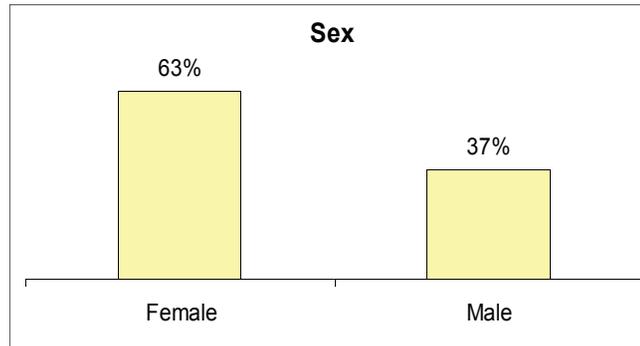
P.O. Box 3705, Windsor NS, B0N 2T0

Appendix 5 Demographic Information: Survey Respondents

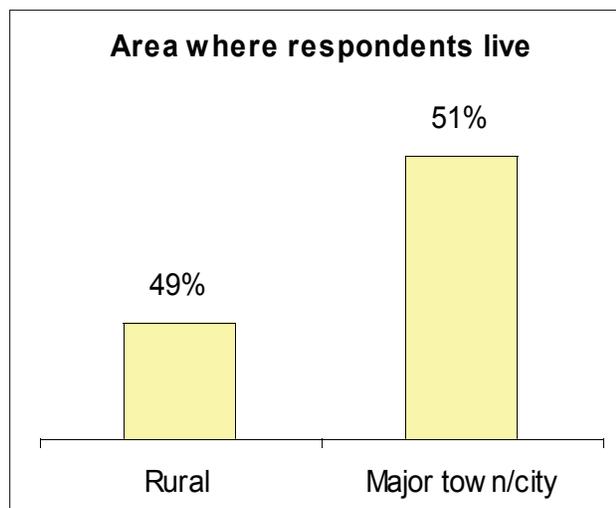
Age group: (N=84)



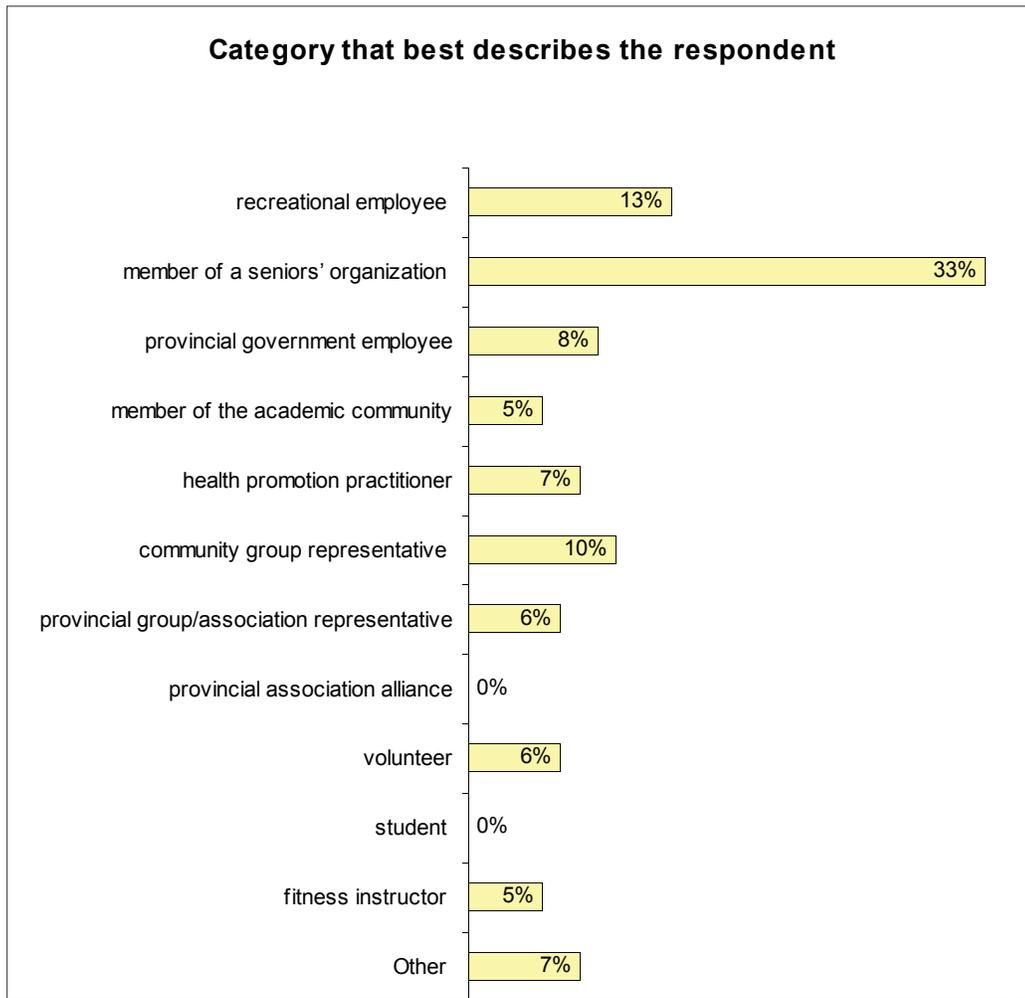
Sex: (N=84)



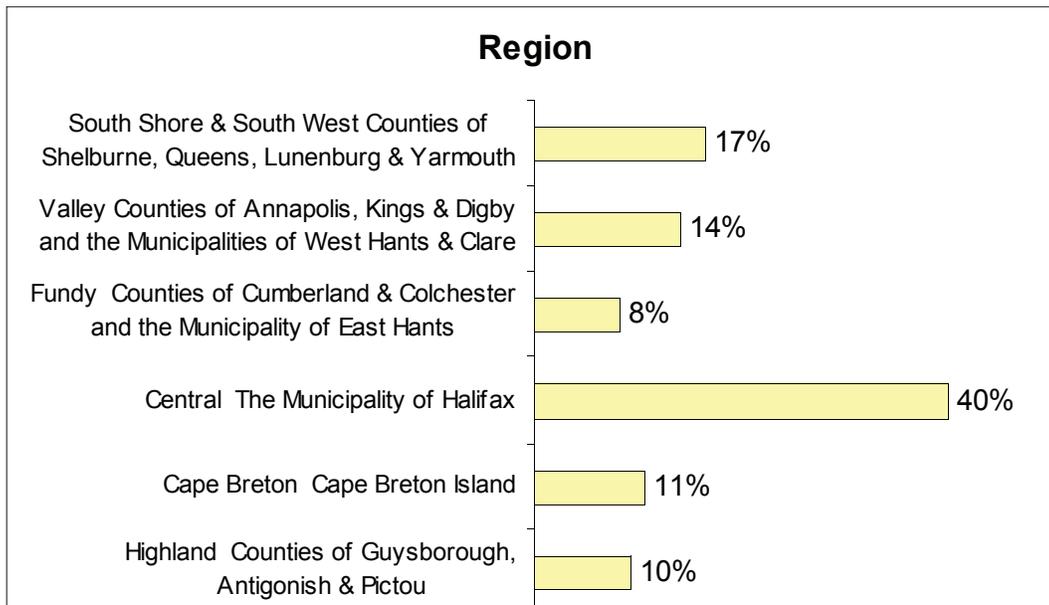
Area Where Respondents Live: (N=84)



Category of Respondent: (N=84)



Region: (N=84)



Appendix 6 Focus Group Questions

Active Living and Physical Activity Opportunities

1. Are you physically active?
 - ⇒ *If yes, what do you do to stay active and healthy?*
 - ⇒ *If not, why not?*
2. Are there any 'barriers' that you feel exist which prevent you from participating in recreation, active living and physical activity opportunities?
3. Have you ever participated in any programs for older adults in your area that help to increase your physical activity or keep you active?
 - ⇒ *If yes, what motivated you? Or what made it easy?*
 - ⇒ *If no, what prevents you from participating?*
4. Do you think there is a sufficient amount of recreation, active living and physical activity opportunities for older adults available in your area?

Information Sources

5. Do you think that older adults are aware of the importance of healthy active aging?
6. Have you ever used information resources for older adults that help to increase active living and physical activity?
 - ⇒ *If yes, what types?*
 - ⇒ *If not, what prevents you from accessing these resources?*
7. Where do you obtain information about recreation, active living and physical activity?
8. Do you think there is a sufficient amount of recreation, active living and physical activity *information and resources* available to older adults?
9. What type of information would you be interested in or find useful to receive on older adults and physical activity?
10. What would be the best form of communication for you to receive information on active living and physical activity?

What More Could Be Done

11. What changes or suggestions, if any do you feel would better meet the needs of older adults in your area to increase active living and physical activity levels?
(What more could be done?)

For the purposes of this discussion, a resource clearinghouse can be defined as a centralized place that collects, organizes, and shares information on programs, resources, tools and facilities/infrastructure that concentrate on active aging and physical activity.

12. In your opinion, do you feel there is a need for a resource clearinghouse to help address active living and physical activity among older adults?
13. How would you prefer to *access information* from a resource clearinghouse?
14. Do you have any additional comments or other recommendations on increasing active living and physical activity for older adults in Nova Scotia?