Pre-Conference Think Tank to Advance the Future of Physical Activity Measurement and Guidelines

November 1, 2006
8:00 am - 6:00 pm
Marriott Hotel, Halifax, Nova Scotia

Immediately preceding the start of the Canadian Society for Exercise Physiology Annual Scientific Conference

Specific aims of the workshop are to:

• discuss the nature of physical activity guidelines, prescriptions and recommendations
• discuss the messaging, delivery, expectations and effectiveness of physical activity guides
• share current findings on physical activity monitoring and surveillance as they relate to the assessment of people meeting physical activity guidelines
• provoke detailed discussions on the current state of understanding in this area, including potential benefits or harm of existing physical activity guidelines
• discuss whether certain groups need special guidelines
• generate potential research projects and collaborations
• initiate a review of Canada’s Physical Activity Guides (adult version now 8 years old; older adult 7 years old; children and youth 4 years old)
• share workshop outcomes with delegates at the Canadian Society for Exercise Physiology Annual Scientific Conference

Supported in part through the Canadian Institutes of Health Research – Institute of Nutrition, Metabolism and Diabetes workshop support for research development and knowledge exchange and endorsed by the Canadian Society for Exercise Physiology.
AGENDA

Continental breakfast served from 7:30-8:30

8:30-8:45 Welcome and Introductions

8:45-9:15 Objectives of Think Tank and Challenging the Status Quo
Mark Tremblay

9:15-9:45 History of CSEP Physical Activity Guidelines
William Hearst

9:45-10:15 Assessments and Evaluations of the Physical Activity Guides
Cora Craig

10:15-10:30 Break

10:30-11:15 Physical Activity Monitoring: Data Limitations and Discrepancies
Peter Katzmarzyk and Mark Tremblay

11:15-12:00 Physical Activity and Inactivity Profiling Possibilities
Dale Esliger

12:00-1:00 Lunch

1:00-2:00 Abbreviated Symposium on “Moving Forward by Looking Back”
Robert Malina, David Bassett, Mark Tremblay

2:00-2:45 Do Certain Groups Need Special Guidelines?
Randy Adams (Aboriginal), Brian Timmons (pre-school)

2:45-3:00 Break

3:00-3:30 Reflections on the Physical Activity Guides
Larry Brawley

3:30-4:30 Open Discussion

4:30-5:00 Next Steps
- summary of discussion – posted on CSEP website
- Commissioned papers for a journal supplement?
- CSEP Position Statement?
- Funding to pursue the evolution of physical activity guidelines?
- Research collaborations?

5:00-6:00 Adjourn and Dinner
PARTICIPANTS

Beginning from the left side, row one participants in order are:
1. David Bassett – University of Tennessee
2. John Spence – University of Alberta
3. William Hearst – Consultant, Ottawa, Ontario
4. Audrey Giles – University of Ottawa
5. Jennifer Copeland – University of Lethbridge

Row two:
1. Ian Janssen – Queen’s University
2. Peter Katzmarzyk – Queen’s University
3. Mark Tremblay (Chair) – University of New Brunswick and Statistics Canada
4. Randy Adams – First Nations and Inuit Health Branch, Health Canada
5. Kathleen Martin Ginis – McMaster University

Row three:
1. Lucie Levesque – Queen’s University
2. Cora Craig – Canadian Fitness and Lifestyle Research Institute
3. Brian Timmons – McMaster University
4. Mike Arthur – Nova Scotia Sport and Recreation
5. Ashlee McGuire – University of British Columbia
6. Larry Brawley – University of Saskatchewan
7. Dale Esliger – University of Saskatchewan
8. Robert Malina – Tarleton State University
9. Russ Kisby – ParticipACTION

Missing from photo:
1. Joe Doiron - Public Health Agency of Canada Delegate
2. Darren Warburton – University of British Columbia
This document provides a brief summary of the discussions which occurred at the Pre-Conference Think Tank To Advance the Future of Physical Activity Measurement and Guidelines which immediately preceded the CSEP and SCAPPS conferences in Halifax November 1-4, 2006. The presentations are the property of the authors. The Think Tank was Chaired by Mark Tremblay (University of New Brunswick) and the proceedings were prepared by Ashlee McGuire (University of British Columbia) with assistance from Dale Esliger (University of Saskatchewan). The participants would like to thank the Canadian Institutes of Health Research, Institute of Nutrition, Metabolism and Diabetes and the Canadian Society for Exercise Physiology for their support of this project.

**Objectives of Think Tank and Challenging the Status Quo** (Mark Tremblay)
(See Tremblay M.S. Think Tank Intro for complete presentation)

Over the last five years there has been a decrease in the number of inactive Canadians, however, 63% of adults and 2/3 of children are still not active enough. The last physical activity guidelines were released in 1998 (for adults), 2000 (for older adults), and 2002 (for children).

Is it time to consider revising or renewing the guidelines (see slides 7 & 12)?

- A new release results in attention and excitement that may encourage Canadians to become more active and attempt to adhere to the guidelines.
- There are increasing numbers of overweight and obese Canadians who claim to be following the guidelines. This may imply that the guidelines are not prescribing enough.
- Objective activity monitoring (e.g., accelerometry) offers a more robust method of obtaining physical activity information and may help define a dose-response relationship between physical activity and health outcomes.
- Technology and methods of communication have changed drastically so it may be beneficial to change the method of delivering the guidelines. It may also be advantageous to offer a physical activity-promoting tool such as a pedometer to a large portion of the population and/or revive a physical activity communications initiative such as ParticipACTION.
- Providing Canadians with a holistic guide that incorporates all aspects of a healthy lifestyle (i.e., physical activity, nutrition, stress management, sleep) may also be beneficial.
- Tailoring the guides to specific populations might enhance utilization. Another option is to create a general guide for each age category and then provide a web-based option where guidelines can be customized according to age, sex, ethnicity, geographic location, initial fitness level, etc.
- Providing a standard definition of physical activity and keeping this consistent is important for long-term monitoring.
Current events affecting physical activity choices and levels in Canadians:

- Children’s Fitness Tax Credit provides families with 500 tax deductible dollars per child under the age of 16 for sport-related activity. This is great because it encourages parents to register children on sports teams however it is very institutionalized and does not promote active living.
- Classic unstructured childhood games and play are being banned from schools and neighbourhoods. This discourages children from playing and being active.

Conclusion: The time is right - This is a prime opportunity to influence Canadians regarding physical activity and its health benefits. This will require a lot of work!

**History of CSEP Physical Activity Guidelines** (William Hearst)
(See Hearst B. for complete presentation)

There is a need to increase awareness of the guidelines and to focus on the methods of messaging. Intermediaries such as teachers and public health nurses are an important group to train about implementation and utility of the guidelines as they are in an opportune spot to make a difference.

**Assessments and Evaluations of the Physical Activity Guides** (Cora Craig)
(See Craig C.L. for complete presentation)

Awareness of the Canadian Physical Activity Guide (CPAG) in Canadians 18 years and older is extremely low. Only 5% of the population has been reached by the CPAG and therefore it has likely had very little influence on behaviour change (see slides 4 - 6). Unprompted recall (Had the participant heard of any physical activity guideline? If so, what was the guideline? Any reasonable response was deemed a recalled guideline) of CPAG is extremely low in Canada. Prompted recall (Had the participants heard of the CPAG?) of the CPAG resulted in significantly more individuals having knowledge of its existence and its recommendations. However, those that knew of the guidelines without being prompted were more likely to believe in the benefits of physical activity and either have full intentions of becoming active or had already taken steps to be more active (see slides 7 – 15).

Research Potential:

- What is the unprompted recall of Canada’s Food Guide?
- Is there a relationship between intention (behaviour change model) and awareness of CPAG?

Conclusion: Awareness of the guidelines needs to be increased to improve its effectiveness. Focus on the communication impact is necessary.
Physical Activity Data in Canada: Why so Many Numbers? What do They Mean? 
(Peter Katzmarzyk) 
(See Katzmarzyk P.T. for complete presentation)

There are reporting inconsistencies and confusion about the numbers associated with physical activity and inactivity in the Canadian population and the analytical strategies used to interpret the data. The thresholds used to differentiate the active population from the inactive population have been lowered (see slide 6 & 9), the number of thresholds have decreased from 3 to 2 (see slide 9) and the terms used to describe the physical activity trends periodically switch between “active” and “inactive” (see slide 9).

The thresholds and numbers used affect the percentage of the Canadian population deemed ‘at risk’ or complying with guidelines. The utilization of the different terms (active vs. inactive) change the focus of the message being sent. The term “inactive” implies a problem and associates a risk with the behaviour. Lowering the thresholds to classify active individuals makes it easier to attain target goals (i.e., by 2015 the goal is to have a 10 percentage point increase in the prevalence of Canadians sufficiently physically active). The delivery of mixed messages could raise questions about the integrity of physical activity research.

Adults intuitively think that children require more activity than adults for normal growth and maturation however there is no evidence to support this claim (see slides 4 & 5).

Conclusion: The changing numbers and terms cause confusion amongst Canadians. Changing the physical activity guidelines may contribute to more confusion.

Physical Activity Monitoring: Data Limitations and Discrepancies (Mark Tremblay) 
(See Tremblay M.S. for complete presentation)

There is a concern about the integrity of the work being done in the area of physical activity monitoring, weight status, and nutritional intake. Using directly measured data, a temporal shift has been detected in overweight and obese individuals with a higher percentage of the population being categorized in the higher weight categories. This indicates an increase in fatness in the Canadian population. Along with the increase in fatness there has also been an increase in physical activity, an increase in the number of screens per household (an increase in inactive temptations), and a decrease in the number of calories and saturated fat consumed. In addition, when the population is looked at according to ethnicity, the fattest groups report the greatest amount of leisure-time physical activity. This information questions the validity of the measurement methodologies as the data do not seem to make sense. Are there data quality issues?

Much of the available data are obtained through self-report, which may be biased. For example, adults may over-report physical activity and children may under-report physical activity; much of the screen-time recorded for children is parent-reported but due to the numerous screens in each household it is highly unlikely that this is accurate; height is
typically overestimated and weight is underestimated. Data compiled from self-report gives the impression that the population is healthier than it really is.

Some possible confounders of the methodology used to collect physical activity data:
- Leisure time physical activity (LTPA) used on questionnaires may be interpreted differently by different people, especially within various ethnic groups. LTPA is now more inclusive of many activities of daily living that were traditionally not recorded as physical activity.
- The one-minute epoch most commonly used when collecting data with accelerometers dilutes short, high intensity activity that is more typical of children and may result in an under-estimation of high intensity activity. Also, with the use of robust physical activity measurement tools, an increase in physical activity may be detected because the incidental activity can be captured. It is important to understand that this detected increase has likely always been there, just not previously captured.
- The guidelines are assuming a baseline level of activity and the recommendations are to be done in addition to this baseline level. In the article by Andersen et al. (see slide 18) children participating in 1 hour of activity per day were found to be at risk for cardiovascular disease. So by complying with many of the existing guidelines, children are developing cardiovascular disease risk factors. (see slide 16)

A major problem with the obesity and physical inactivity epidemics is that our frame of reference is changing and this change is only temporarily stable. Perceptions about physical activity and weight can change according to what is socially desirable. A ‘normal’ healthy child today is heavier and less active than what would be considered normal 40 years ago. Norms should be criterion-anchored and based on the ideal ‘healthy’ individual. WHO growth charts for children are based on how children should grow and will now be used to determine BMI for children.

Consider that:

BMI and physical activity thresholds are based on data from the 1960’s and 1970’s and are therefore not accommodating lifestyle, environmental, and transportation changes that have occurred since then. Modern communities have decreased the amount of daily activity that occurs and perhaps the physical activity guideline thresholds should be increased to address this drastic lifestyle change.

The guidelines are not clear. People do not realize that the guidelines are to be done on top of baseline activity and assume that the recommended amount of activity per day is sufficient. People tend to record only ‘purposeful attempts’ at physical activity because this is what they hear about, however total daily energy expenditure through physical activity is important to measure.

BMI thresholds may need to be revisited because for a given BMI today an individual has more fat than in the past. It may also be beneficial to determine specific ethnic BMI cut-off values as health risk may be different across ethnicities.
Conclusion: Weaknesses in data acquisition must be identified in order to correctly understand and interpret them. A stable frame of reference is needed to examine all factors affecting a healthy lifestyle.

**Physical Activity and Inactivity Profiling Possibilities** (Dale Esliger)
(See Esliger D.E. for complete presentation)

Obtaining an objective measure of physical activity is becoming easier due to the increasing numbers of tools available to collect data (i.e., accelerometers, pedometers, heart rate monitors, etc.).

Accelerometers store raw data in the form of time-stamped counts (see slide 3) that can provide rich information regarding the wearer’s habitual physical activity. Accelerometers can be preprogrammed to store data at specific time intervals (i.e., 15, 30, or 60 second epochs). The number of counts that occur within the epoch are summed and stored in memory.

Most accelerometer manufacturer’s software packages provide the researcher with the option of viewing the raw data in graphical form (see slide 5). The number of counts on the Y-axis indicates the magnitude of acceleration (or the intensity of the activity) and the X-axis indicates the time at which the activity occurred. The higher the count, the higher the intensity of activity performed. This viewing option allows the researcher to perform a visual Data Quality Assessment (DQA) to determine the pedigree of the file (i.e., is the data biologically plausible, does it need to be modeled if data are missing) (see slide 6). A Data Decision Tree should be constructed to determine what data are acceptable for reduction (analysis). For example, the number of days the monitor was worn, the number of hours within a day that it needs to be worn, etc.

After the DQA is completed the counts must be calibrated, with the population of interest, to something known. For example, participants will walk, jog, and run on a treadmill at set speeds to determine the counts that correspond to different intensities of activity and cut-points can be generated. Factors such as stride length and stride frequency affect the number of counts so these cut-points must be specific to the population being measured. With this information the data can be interpreted (see slide 14). The patterning of the cut-points determined from the calibration of counts demonstrates the richness of accelerometer data (see slide 15). Many software packages have the option of viewing cut-points graphically (see slide 16).

Custom-made software allows for an in-depth look at specific outcome variables in the dataset (see slides 18 - 19). For example, the researcher can look at the accumulation or fractionalization of activity that occurs and the exact duration of the activity bouts. Rules and rules exceptions govern what each variable is defined as (i.e., a 1 minute rest period is allowed within a 10 minute bout of activity). The amount of time that is typical of a specific population to participate in a bout of moderate-to-vigorous intensity activity or what amount of time it is biologically plausible to be inactive (counts of zero)(see slide 20) can also be determined. The outcome variable possibilities are endless using accelerometry.

Healthy Opportunities for Preschoolers (HOP) is a program underway at the University of Victoria (see slide 21). This investigation is profiling the activity levels of
children in day homes. During the most active hour (as indicated by the care provider) at
the daycare, trained observers assess the children using the BEACHES protocol. The
children also wear Actical accelerometers for the day collecting data at 15 second epochs.
The researchers want to compare the one hour reserved for quality activity to all other
hours of accelerometer wear. Slide 23 shows the BEACHES hour in high resolution.
Slide 24 gives a graphical representation of the important outcome variables used in the
HOP project. Slide 25 is another level of analysis showing tally’s of different intensities
of activity at various times in the day. These various methods of analyzing the data
demonstrate the richness of the data and the detail that a customized program can
provide.

Slides 29 to 32 compare methods of interpreting data on the number of children
meeting physical activity guidelines. These slides clearly demonstrate how various
interpretations of the same data can result in very different outcomes. Slide 31 bouts are
10+ minutes in duration. Slide 32 (looking at 7 days on the X-axis) gives the most strict
representation of the proportion of children meeting the physical activity guidelines.

Technologies are now being combined so that accelerometers also come with GPS,
heart rate, or learn to recognize patterns and activities in an individual (slide 35 - 40). These added signals may give a more comprehensive picture of physical activity patterns
and importantly, may provide more information about the context of activity.

There is variability in accelerometer data. With locomotor activities such as walking
the accelerometer counts are regular but with activities of daily living such as housework
the counts are very different within and between individuals. If trying to obtain estimates
of energy expenditure from the accelerometer data it may be beneficial to utilize different
algorithms for the different types of activity to obtain a better prediction.

Conclusion: To optimize the use of objective tools such as accelerometers, researchers
need to understand the context of the research and be able to correctly interpret the data. It would be helpful to reach a consensus on the
cut-points to allow for better comparison between studies.

Physical Activity for Children and Adolescents (Robert Malina)
(See Malina R.M. for complete presentation)

It is generally assumed that physical activity is essential for normal growth and
maturation and also for the development of health and fitness of children and adolescents.
Focus of the presentation was on the latter. Evidence specifically addressing the effects
of physical activity on children and adolescents are variable in quality and quantity. The
evidence base is strongest to support beneficial effects of systematic physical activity on
skeletal health, aerobic fitness, muscular strength and endurance, adiposity in the obese,
and blood pressure in the hypertensive. Evidence of beneficial effects is suggestive for
adiposity, HDL-cholesterol and triglycerides in normal weight youth; blood pressure in
the normotensive; self-concept; and anxiety and depression symptoms. Data are limited
for the metabolic syndrome, type 2 diabetes and other indicators of cardiovascular health
in youth.
Care is needed in interpreting the data since variables of interest change with growth, maturation and development. Some variables have their own growth spurts while others change with sexual maturation (see Malina et al., 2004).

Overall, most children and adolescents are healthy and regular physical activity has several important health implications. Two relevant questions need attention: (1) How much activity is needed to maintain beneficial effects induced by physical activity?; and (2) How much activity is needed to prevent unhealthy weight gain? Issues related to inter-individual differences in growth and maturation and also in response to or lack of response to activity programs also need attention. On the other hand, beneficial effects of physical activity interventions are seemingly more apparent in “unhealthy” children and adolescents – the obese, hypertensive and those with the metabolic syndrome.

Protocols of many intervention studies involved continuous activity in a controlled environment (except for those used in bone health studies). The applicability to children and adolescents in a free living environment where activities are often intermittent needs evaluation.

In order to understand the beneficial effects of physical activity on growth and development in children it is important to understand what both “normal growth” and “abnormal growth” mean in this population. With normal growth there is a proportional increase in height and weight (see WHO Growth Charts in Mark Tremblay’s presentation slide 23). It is how children raised in an ideal healthy environment grow regardless of gender or ethnicity. Abnormal growth refers to excess weight. Of the two variables associated with growth, height and weight, weight is the factor that is most affected by the environment and is the factor that has increased dramatically in recent years. There has been no secular change in height. Unfortunately excessive weight gain is being seen earlier and earlier in children and with this gain in fat mass is the development of severe health complications such as the Metabolic Syndrome and Type 2 Diabetes. The level of physical activity necessary to protect against these conditions in children is unknown and may vary with age depending on the stage of development the child is in (see slide 14).

In general, studies have shown no relationship between activity and inactivity. Active children can also spend large amounts of time being inactive. The beneficial affects of physical activity may depend on how and when the activity occurs.

Clarifying the physical activity guidelines for children: The guidelines recommend that children increase their daily activity by 60 minutes of moderate activity and 30 minutes of vigorous activity. These 90 minutes of activity are done in addition to whatever the child’s current level of activity was. The guidelines also recommend that the children decrease the amount of time spent in inactivity by 90 minutes per day. This adds up to 180 minutes less of inactive time per day.

IF there is confusion about the guidelines amongst the physical activity experts in Canada there is no question that there will be confusion about them in the general population.

Conclusion: There is still extensive research that needs to be done examining the effects of physical activity on health parameters in children.

The confusion regarding the physical activity guidelines is a major barrier to their proper use and implementation and demonstrates a need for clarity.
Physical Activity Levels in Children of an Old Order Amish Community
(David Bassett Jr.)
(See Bassett D.R. for complete presentation)

To determine the potential causes of the overweight/obesity epidemic it is important to look at physical activity patterns prior to the onset of the epidemic. Research suggests that modern technology is contributing to the increase in cardiovascular disease risk factors in the population. For example, in children, obesity prevalence increases with increased TV viewing time and in adults, increased time spent in vehicles is associated with an increase in obesity.

A look at the Old Order Amish provides a glimpse of the past. The majority of this particular group of Amish still farm and are quite active. The results of this investigation cannot be generalized to all groups of Amish as some groups have a higher prevalence of overweight due to a difference in lifestyle. The Amish children in this investigation walk to school, play active games in their free time and during school recess times, and assist with the farm chores. Active living constitutes a large proportion of their daily lives.

There are a few key results from the investigation that should be highlighted:
1) There is no age-related decline in activity (pedometer) in the Amish.
2) Amish children are more fit and have a much lower prevalence of overweight/obesity (it is almost non-existent) than contemporary children.
3) Contemporary children (in the U.S.A.) take approximately 33% less steps per day than Amish children.

Conclusion: The results from this investigation suggest that modernization has had a negative impact on physical activity levels and demonstrates the importance of active daily living in the prevention of adverse health complications.

Moving Forward by Looking Back: Lessons Learned From Long-Lost Lifestyles
(Mark Tremblay)
(See Tremblay M.S. Think Tank Abbreviated Symposium for complete presentation)

Changing our frame of reference causes problems:
1) In data collection, analysis, and interpretation. For example, physical activity has changed meaning over the years
2) Children have been programmed to think that physical activity needs to be structured and organized. This makes it difficult to find time to be active.
3) The phenomenon of “Hyperparenting” is occurring. An attempt to provide children with the all these opportunities may be stressing them out.

There are 3 common solutions put forward to solve the physical inactivity problem:
1) provide quality physical education
2) provide the opportunity for more institutionalized sport
3) solve the problem of low socioeconomic status

In the Old Order Mennonite community there is a higher level of fitness and a lower prevalence of overweight and obesity than contemporary society without physical
education, organized sport and they have low socioeconomic status. Environment is a huge factor in physical activity.

There are various avenues through which physical activity can be obtained (school/occupational physical activity, domestic, transport, leisure). The percentage of time spent in these different domains varies (see slide 24) between countries and over time. In Canada we are focusing mostly on leisure activity and neglecting other opportunities to increase or provide physical activity. The guidelines assume a baseline of activity and are therefore an understatement of what total daily physical activity should be. They are only one part of a comprehensive strategy that may also include behaviour change strategies, altering the environment (i.e., biking paths and safe sidewalks), to incorporate more activity into daily life.

Conclusion: The strategy to increase physical activity in Canada needs to incorporate all aspects of daily living to enhance its effectiveness.

Input of Intermediaries Working in Aboriginal Communities into the Tailoring of Canada’s Physical Activity Guide (Randy Adams)
(See Adams R. for complete presentation and NPAG_eng[1] for the Nunavut Physical Activity Guide)

The focus of physical activity needs to be put into a holistic context and incorporated into daily life and traditional practices of the Aboriginal people to enhance its effectiveness. They should be empowered and included in the creation of the guidelines. As a consequence of the environment (i.e., adequate housing, substance abuse) physical activity is not high on the priority list in this population.

The specific Aboriginal physical activity requirements need to be addressed. There is a higher prevalence of overweight and weight-related health complications in the Aboriginal population so a different set of guidelines may be required to maintain a positive health status.

There are two options:
1) To revise the current guides to include pictures of traditional Aboriginal activities.
2) Examine the Aboriginal population and create a new set of guidelines based on their specific needs.

Conclusions: The Aboriginal population requires a unique set of guidelines. It should be written and distributed so that it is accessible to them and is culturally appropriate.

Thought Provoking Questions: Do we have evidence that the implementation of the guidelines is effective? Is the implementation of the guidelines the answer to the problem? Should we be focusing our efforts to another area of a comprehensive strategy to increase physical activity?
Do Certain Groups Need Special Guidelines? Pre-school Children. (Brian Timmons) (See Timmons B.W. for complete presentation)

There has been a drastic increase in the number of papers and interest in physical activity in pre-school age children in the last few years.

Physical activity is important in developing fundamental movement skills in children. Childcare can be instrumental in providing physical activity opportunities. Intermediaries should be trained in the implementation of physical activity to ensure that the necessary opportunities are available to the children.

Before creating guidelines for pre-school children consider:
1) Do we want to set guidelines for PLAY?
2) What are the guidelines based on (see slide 8)?

Conclusion: Research is needed before constructing guidelines for this age group.

Transforming Physical Activity Recommendations: Reflections on Message Magic, Evaluation, and Potential for Mass Confusion (Larry Brawley) (See Brawley L.R. for complete presentation)

It is important to talk to people to find out what their needs are, how to reach groups, what is being used, and importantly, what is working within communities. It may also be beneficial to create guidelines specific to individual populations as tailored messages are more apt to elicit behaviour change. The gatekeepers (middle-people) are crucial in the dissemination of the guidelines and are required to make the necessary tweakings so they will be more likely to be accepted.

If new guidelines are released it is important to consider:
1) that intermediaries such as teachers need to be convinced of the importance of the tools
2) that we may confuse people by changing things
3) that the delivery agents (i.e., health care providers) need to be trained to use them correctly

Conclusion: Without the support of the intermediaries and improved messaging the guidelines will not succeed.
Open Discussion:

Review and/or revision of the current guidelines?
1) Guidelines need to be reviewed based on current evidence. The guidelines need to prevent the gain of unhealthy weight and provide health benefits. None of the PA guidelines created in Canada have scientific citations to support the recommendations. Developing a position statement would give credibility to the guidelines (although some question this).
2) Guidelines should address overweight and obesity.
3) The Aboriginal population would like to be included in the creation of guidelines that are culturally appropriate.
4) Guidelines for individuals with physical impairments should be created or incorporated into the general guidelines. Current guidelines cause more harm than good to this population.
5) The implementation of the guidelines needs to addressed. Up to this point it has had limited success. There needs to be continuity in the messaging.
6) The delivery agents must be properly trained and empowered so that the message is delivered correctly and clearly.
7) A more complete look at the benefits of physical activity should be taken. For example, the benefits of walking to work, school or the store on the environment or the effects of increased physical activity opportunity on crime prevention.
8) The physical activity guidelines could be linked to the Food Guide for greater success or made into an integrated guide that addresses many aspects of a healthy lifestyle.
9) Consider that it will be an expensive endeavor to revise or renew the guides.

Hot Topics of the Day:
1) Messaging: It needs to be improved.
2) Guidelines: Should they be population specific?
3) Guidelines: What should the guidelines be? What are we guiding?

There are two important questions that arise when constructing guidelines:
1) **What should the guidelines be?** What are the numbers? And, once we know the number, how do we get people to do it? Which one of these questions comes first? Should we focus on getting the message out or should we focus on getting the ideal set of numbers and then get the message out?
2) **What are we guiding?**

Two Purposes of Physical Activity Guidelines:
1) To understand and detect the prevalence of a potential public health burden
2) To allow the individual to monitor oneself (Individual-based purpose)

There needs to be unity between the hard science and achieving the behavioural change to increase the chance of success of the guidelines. Canada currently has strategies written but there has been no implementation. A new release of the guidelines may build some momentum for change. The guidelines should be associated with
policies or initiatives such as physical education in schools or weekly 5 km walks in a town. This will decrease some of the emphasis on the individual. As well, a review of other strategy’s successes and failures should be undertaken (i.e., Canada’s Food Guide) to avoid making the same mistakes and to learn from these successes.

The physical activity guide is only one component of a comprehensive strategy to increase physical activity. All components are needed to achieve success. Individuals are struggling with the behaviour change associated with a healthier lifestyle. The message being delivered to the population needs to be simple and specific. Physical activity is beneficial to everyone and as such, needs to be delivered to the entire population. The focus should not just be on the overweight and obese individuals because this excludes a large portion of the population that will still benefit from physical activity. When creating or implementing guides for special populations the focus should be on the messaging (how to).

Is it practical to create guidelines for numerous populations? In theory, the creation of many guidelines that are tailored to specific populations is a fantastic idea. This may however, create too great a burden for the intermediaries and discourage use. Canada already has a thick stack of guideline handouts and booklets from which to sift through when dealing with a client and this may become too overwhelming if the pile is added to. Consider a city in Canada such as Vancouver or Toronto where there is a lot of ethnic diversity and many inter-racial marriages. In one classroom in an elementary school there is the potential for 5 – 10 different ethnic groups to be represented. How would the intermediary (the teacher) deliver the recommendations if s(he) had 10 different pamphlets each with a slightly different recommendation? Is it even possible to address the differences amongst all populations? It is important to consider the feasibility of the guidelines and their implementation. The message needs to be simple and easy to use.

Launching of Phase 2:

Background documentation providing evidence to support or refute the current guidelines is necessary. The writing of a position stand(s) may be undertaken and disseminated through academic conferences and public forums to offer credibility to the guidelines.

If additional funding is secured, a journal supplement in both French and English of 8-10 papers based on the topics presented at the Think Tank may be prepared and submitted to the Applied Journal of Nutrition and Metabolism. There may be the potential for a combined publication with the Canadian Journal of Public Health. If funding is secured in a timely fashion, a review of the papers is anticipated for March of 2007 and the supplement is planned for the fall of 2007. Recommendations for future research or guidelines revisions/renewal may ensue based on recommendations from the supplement.