

**Comments on Health People 2020 by Sheri R. Colberg, PhD  
(representing the American Diabetes Association on the coordinating committee for the  
National Physical Activity Plan)**

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Under the “**Diabetes**” section:

***Proposed New Objective:***

***Sheri Colberg PhD on 12/18/2009 12:05:00 PM***

**Proposed Objective Text:** Increase the number of adults and youth with diabetes who participate in regular physical activity to help manage blood glucose control and prevent health complications

**Rationale:** Participation in regular physical activity/exercise has been shown to improve blood glucose control in most people with diabetes, prevent or delay the onset of type 2 diabetes, and lower the incidence of diabetes-related health complications. The published data in these areas are strong and will be reinforced in a revised, joint position stand by the American Diabetes Association and the American College of Sports Medicine to be published in 2010. Physical activity is even more critical to optimize health and enhance longevity in a diabetic population and should be considered an essential part of care for these individuals. Activity can also prevent onset of diabetes in high-risk, pre-diabetic individuals, of which there are more than 54 million in the United States. The incidence of diabetes is expected to double in the near future, with costs of caring for diabetes tripling in the same time frame. Many cases of diabetes are preventable and complications avoidable with inclusion of regular physical activity (aerobic and resistance training) into a daily or weekly routine. For all these reasons, physical activity needs to be included in the "Diabetes" objectives and not just in the "Physical Activity" section.

**Proposed Data Source(s):** Monitor physical activity participation via NHANES and other data monitoring systems already in place that collect information about diabetes status, health problems, and physical activity levels.

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Under the “**Physical Activity and Fitness**” section:

**Objectives Retained As Is From Healthy People 2010**

PAF HP2020–1: Reduce the proportion of adults who engage in no leisure-time physical activity.

***Sheri Colberg PhD on 12/18/2009 2:53:00 PM***

**Objective Clarification, Objective Text:** As the representative for the American Diabetes Association to the coordinating committee for the National Physical Activity Plan, I wholeheartedly agree that the first place to start with getting Americans more active is spontaneous physical activity. I would have to contend, though, that it does not need to just be during "leisure-time." Any activity during the day should count and can help ward off weight gain and other disease states.

For example, individuals with diabetes are encouraged to increase their total daily,

unstructured physical activity for additional health benefits. Non-exercise activity thermogenesis (i.e., energy expending for activities of daily living) can create a large daily caloric deficit to prevent excessive weight gain. Small studies have reported that obese individuals sat for about 2.5 hours per day and walked an average of 3.5 miles less per day more than lean ones. Differences were mainly due to multiple walks per day of short-duration (<15 min) and low-velocity (about 1 mph).

Moreover, use of objective measures like step counters may enhance reaching daily goals. A meta-analysis of 26 studies with a total of 2,767 participants found that pedometer users increased their physical activity by 26.9% over baseline in studies having an average intervention of 18 weeks, and an important predictor of increased physical activity was the use of a goal, such as to take 10,000 steps per day. Obviously, increased steps could take place at any time of day, at work, or at home.

A revised objective would be better written as, "Increase the proportion of adults who engage in as much spontaneous physical activity as possible throughout the day, both at work and during leisure time."

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#### **Objectives Retained But Modified From Healthy People 2010**

PAF HP2020–6: Increase the proportion of adults that meet current Federal physical activity guidelines for aerobic physical activity and for muscle strength training.

***Sheri Colberg PhD on 12/18/2009 2:24:00 PM***

**Objective Clarification, Objective Text:** The American Diabetes Association agrees that particularly for individuals with diabetes or pre-diabetes, aerobic exercise should be performed at least three days per week, with no more than two consecutive days without aerobic activity due to the transient nature of exercise-induced improvements in insulin action. Most clinical trials evaluating exercise interventions in people with diabetes have used a frequency of 3 times per week.

The research has shown that type 2 diabetic individuals should engage in a minimum of 150 minutes per week of exercise at moderate intensity or greater. Doing only 75 minutes of vigorous activity has not been effectively studied with regard to its ability to lower cardiovascular risk.

Aerobic capacity is much lower in most people with type 2 diabetes than in people without diabetes, and therefore most with this disease will simply not be able to get enough exercise volume in 75 minutes to achieve the benefits that would be expected from the 13 met-hr/week CDC had in mind when recommending this amount of vigorous exercise at an assumed intensity of 10 METs. Thus, it may be helpful to clarify that these recommended durations may not necessarily be the minimum requirement in all populations.

***Sheri Colberg PhD on 12/18/2009 2:28:00 PM***

**Objective Clarification, Objective Text:** The American Diabetes Association also recognizes that people with diabetes have much to gain from performing muscle-strengthening activities, and they recommend that this population engage in moderate to vigorous resistance training at least two nonconsecutive days per week, but more ideally three days weekly.

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## Objectives Moved From Another Healthy People Topic Area

PAF HP2020–14: Increase the proportion of physician office visits for chronic health diseases or conditions that include counseling or education related to exercise.

**Sheri Colberg PhD** on **12/18/2009 1:56:00 PM**

**Objective Clarification, Objective Text:** As a representative for the American Diabetes Association to the coordinating committee for the National Physical Activity Plan (to be launched in spring of 2010), I agree with Randi Lite's amendment to this objective to add "and referral." Physicians clearly are limited in the amount of time that they have to interact with a patient during an office visit, and although physical activity is a critical tool in the management and prevention of diabetes and its health complications, exercising with this chronic disease may require safety precautions and pre-exercise planning.

As will be stated in the upcoming position stand on exercise and type 2 diabetes to be published jointly by the American Diabetes Association and the American College of Sports Medicine in 2010, safe exercise participation can be complicated by the presence of diabetes-related health complications like cardiovascular disease, hypertension, neuropathy, or microvascular changes. In many cases, a pre-exercise medical evaluation may be necessary, but other diabetic or pre-diabetic individuals simply need guidance on how to safely increase their physical activity levels with diabetes. Ideally, this objective should be expanded out to include other health care professionals, such as exercise physiologists and certified diabetes educators, with the knowledge to prescribe safe and effective exercise and to provide monitoring and support of such programming in this population.

Perhaps a better wording of this objective is the following: "Increase the proportion of physician and other health care professional office visits for chronic health diseases or conditions that include counseling, education, and referral related to exercise."

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## Objectives Archived From Healthy People 2010

HP2010 22-5: Increase the proportion of adults who perform physical activities that enhance or maintain flexibility.

**Sheri Colberg PhD** on **12/18/2009 2:07:00 PM**

**Objective Clarification, Objective Text, Status:** The upcoming position stand on exercise and type 2 diabetes to be published jointly by the American College of Sports Medicine and the American Diabetes Association in 2010 does not necessarily agree that there is no place for flexibility training, rather than it should not be done in place of other forms of training.

Although flexibility exercise (stretching) has frequently been recommended as a means of increasing joint range of motion (ROM) and reducing risk of injury, two systematic reviews found that flexibility exercise does not reduce risk of exercise-induced injury. One small randomized control trial found that range-of-motion exercises modestly decrease peak plantar pressures, but no studies have directly evaluated whether such training reduces risk of ulceration or injury in people with diabetes who often experience glycation of joint surfaces resulting in a loss of flexibility.

However, flexibility exercise combined with resistance training can increase range-of-motion in individuals with diabetes and allow them to more easily engage in activities that require

greater flexibility. For this reason, flexibility training may be included as part of a physical activity program, although should not substitute for other training. Older adults are advised to undertake exercises that maintain or improve balance, which may include some flexibility training, particularly for many older individuals with diabetes with a higher risk of falling.

Perhaps this objective could, therefore, be revised and reinstated to include balance and postural training to prevent falls, which would include an element of flexibility to retain a fuller range-of-motion around joints, rather than just focusing on sports injury prevention.

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