Behavioral Risk Factor Surveillance System

Vol. 10 No. 2 *Winter 2003*

Contents

Physical Activity

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Introduction

Large numbers of Americans suffer from chronic illnesses that can be prevented or improved through regular physical activity. About 14 percent of all United States deaths in the 1980s could be attributed to insufficient activity and inadequate nutrition.[1] Furthermore, physical inactivity contributes substantially to medical costs.[2] The risk for coronary heart disease associated with physical inactivity is similar to that of cigarette smoking.[3] Research also indicates that physically active people will have better health than physically inactive people. They will live longer, feel better, and be less likely to become sick.[4] Many diseases and health conditions are positively affected by increased levels of physical activity, including coronary heart disease, diabetes, hypertension, and obesity.[4, 5, 6] The 1996 Surgeon General's report on physical activity and health concluded that people of all ages benefit from regular physical activity and that significant health benefits are obtained through a moderate daily amount of physical activity. Examples of a moderate level of physical activity are 30 minutes of walking, or raking leaves, or vacuuming.[4]

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Measuring Participation in Physical Activity

The data presented below on physical activity in New York State were collected in the 2001 Behavioral Risk Factor Surveillance System (BRFSS). Questions were included to estimate and classify levels of physical activity in the following ways:

No Leisure-Time Physical Activity

Leisure-time physical activity is physical activity that is performed during exercise, recreation, or any additional time other than that associated with one's regular job duties, or for active transportation (walking or cycling).[7] The BRFSS measures leisure-time physical activity with one question:

- During the past 30 days, other than your regular job, did you participate in any physical activities or exercise such as running, calisthenics, golf, gardening, or walking for exercise?

Respondents identified as having *no leisure-time physical activity are those that report they have not participated in this sort of activity in the past 30 days*.

Physical Activity: for leisure, active transportation, or domestic purposes

The measurements described below assess the quantity of physical activity for three different purposes: domestic, active transportation, and leisure. Domestic physical activity refers to housework, yard work, physically active childcare, and the like. Physical activity that happens for transportation includes walking or bicycling for the purposes of going somewhere. Finally, leisure-time physical activity refers to discretionary or recreational time spent for hobbies, sports, and exercise.[7]

The BRFSS has used seven questions to measure participation in physical activity for these three purposes. Three different measures of physical activity are derived from these questions: moderate-intensity physical activity, vigorous-intensity physical activity, and recommended levels of physical activity. The derivation of these measures is displayed in figure 1 and is described below.

Moderate-Intensity Physical Activity

Physical activity of moderate intensity causes small increases in breathing and/or heart rate. These include activities such as brisk walking, mowing the lawn, dancing, swimming, or bicycling on level ground.[7] Respondents are identified as participating in regular moderate-intensity physical activity if they report *participating in any moderate-intensity physical activity outside of work for a minimum of 30 minutes on 5 or more days per week.*

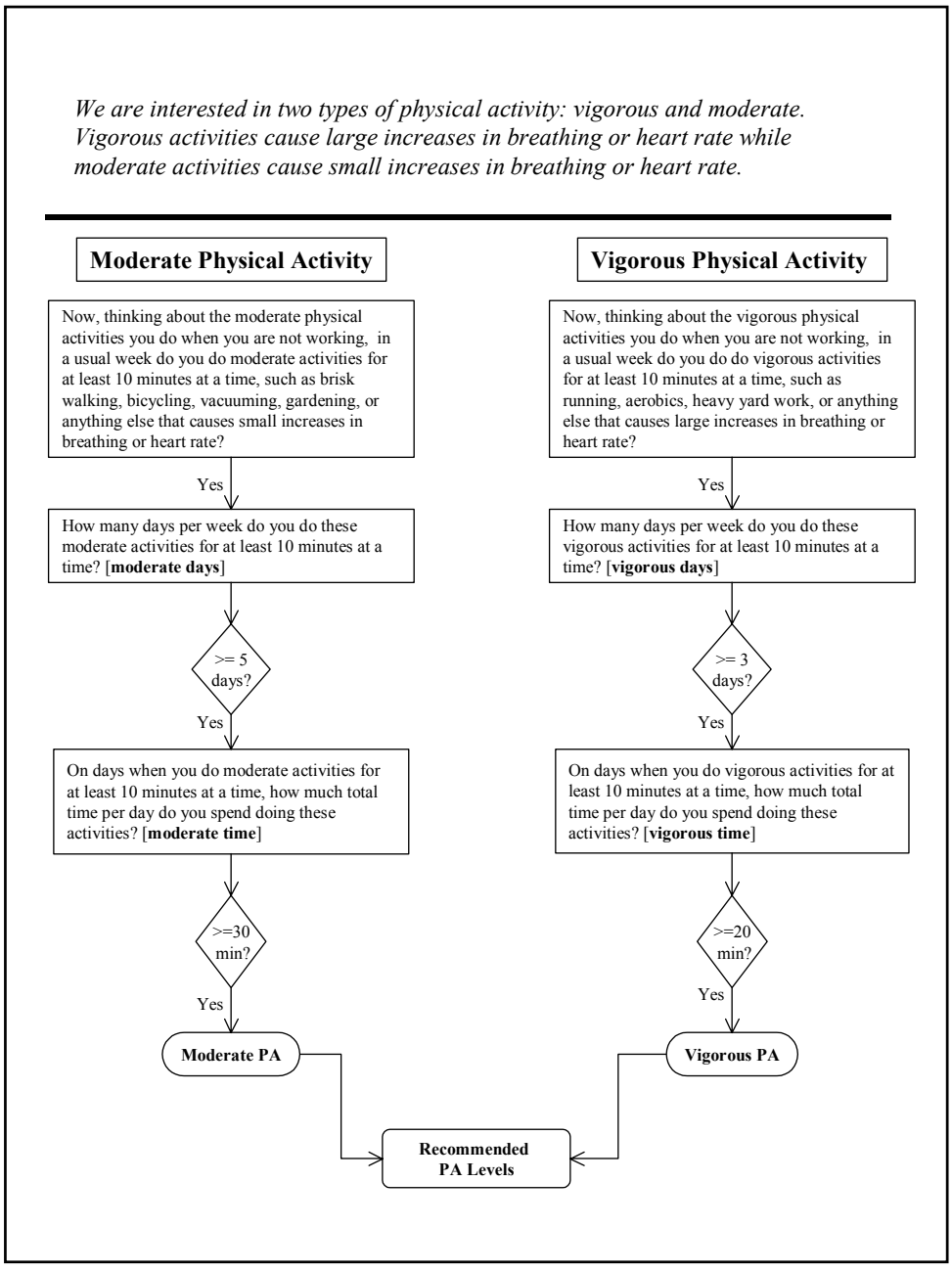
Vigorous-intensity physical activity

Physical activity of vigorous intensity causes large increases in breathing and/or heart rate. These could include activities such as jogging, chopping wood, participating in high-impact aerobic dancing, swimming continuous laps, or bicycling uphill.[7] Respondents are identified as participating in regular vigorous-intensity physical activity if they report *participating in any vigorous-intensity physical activity outside of work for a minimum of 20 minutes on 3 or more days per week.*

Recommended Levels of Physical Activity

Respondents were classified as active at the recommended level if they reported adequate physical activities of moderate intensity (≥30 minutes per day, ≥5 days per week) or of vigorous intensity (≥20 minutes per day, ≥3 days per week).

Figure 1. Measuring moderate, vigorous, and recommended physical activity.



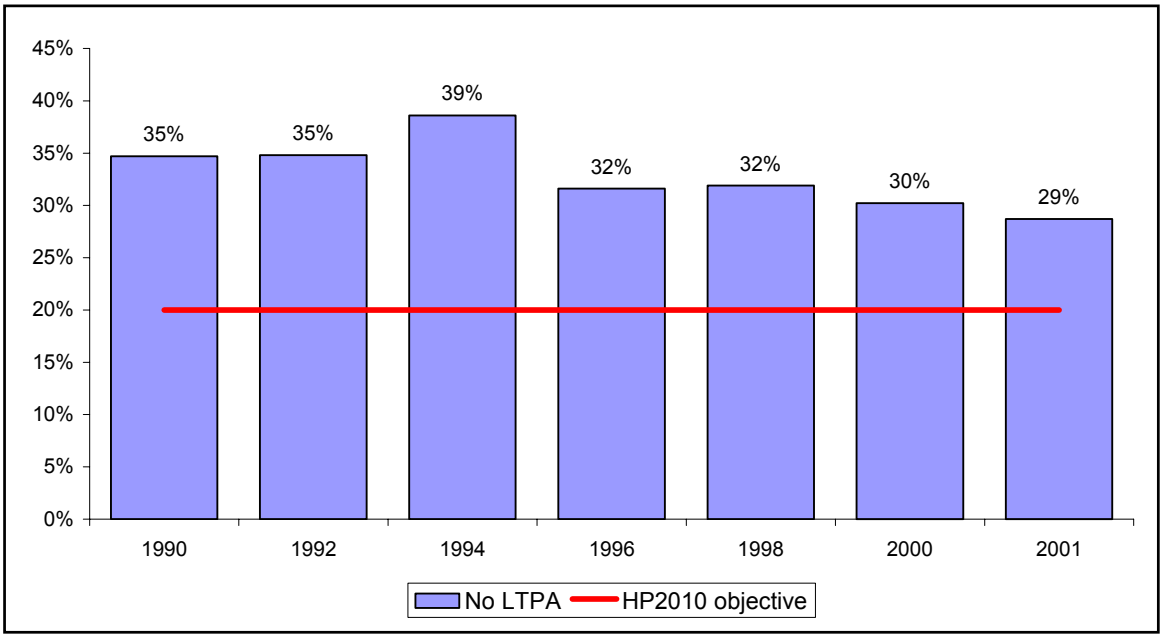
Physical Activity Among NYS Adults

No Leisure-time Physical Activity

Measurements of lack of leisure-time physical activity are available over time. In 2001, the proportion of adults in New York who had no leisure-time physical activity was 29% (CI 95%: ±3.1) (Figure 2). In 1990 the proportion was 35% (CI 95%: ±3.1). This is a statistically significant drop

in the proportion of adults without leisure-time physical activity, but still short of the Healthy People 2010 objective of 20%.[8] Individuals in New York City (34%) were more likely to report no leisure-time physical activity than for the rest of the state (26%) (Table 1). Lack of leisure-time physical activity also varied slightly with age. Twenty-one percent of people aged 18-24 years did not participate in leisure-time physical activity, compared to 36% for those aged 65 years and older. Individuals who were white (24%) were less likely to report no leisure-time physical activity than were African Americans (33%) or Hispanics (41%). Women (31%) had a higher proportion of no leisure-time physical activity than men (26%). Individuals in higher income groups or with higher levels of educational attainment were less likely to report no leisure-time physical activity than other New York adults. Finally, people with disabilities* (42%) are more likely to report no leisure-time physical activity than other New York adults (26%).

Figure 2. Percent of Adults (aged 18 years and older) Who Had No Leisure-Time Physical Activity, New York State: 1990-2001



* Respondents who report activity limitations due to physical, mental, or emotional reasons or have a health problem that requires the use of special equipment.

Table 1. Percent of Adults (aged 18 years and older) Who Participating in various levels of Physical Activity, New York State: 2001.

Physical Activity Levels[1]:	No LTPA[2]		Moderate[3]		Vigorous[4]		Recommended[5]	
	%	± CI 95%	%	± CI 95%	%	± CI 95%	%	± CI 95%
HP2010 Goal	*20%*		*30%*		*30%*		*NA*	
Total	28.7	1.8	32.8	1.7	22.4	1.5	41.5	1.8
Region								
NYS except for NYC	25.9	2.0	35.5	2.2	23.5	1.9	44.1	2.2
NYC	33.9	3.3	27.8	2.9	20.4	2.5	36.8	3.1
Age								
18 - 24	21.2	5.4	37.5	6.3	36.8	6.2	53.1	6.5
25 - 34	29.1	4.3	32.9	3.9	29.9	3.7	46.1	4.2
35 - 44	30.9	3.7	33.5	3.6	25.3	3.2	42.9	3.7
45 - 54	26.1	3.9	31.0	3.9	19.3	3.2	40.3	4.1
55 - 64	26.4	4.7	33.2	5.0	16.0	4.0	38.6	5.0
65+	36.2	4.4	29.5	4.2	9.6	2.6	31.1	4.1
Race								
White	24.2	1.8	37.1	2.1	24.7	1.9	45.8	2.1
African American	32.9	5.8	21.8	5.0	16.6	4.5	29.0	5.4
Other	31.7	7.6	32.6	7.6	18.0 *	5.5	40.1	7.6
Hispanic	40.7	5.5	23.1	4.3	18.7	4.0	33.4	4.9
Gender								
Male	26.2	2.7	32.6	2.7	27.1	2.5	44.8	2.8
Female	31.0	2.3	32.9	2.3	18.2	1.8	38.5	2.3
Income								
less than $15,000	43.4	6.2	27.8	6.0	12.2 *	4.6	31.5	6.0
$15,000- 24,999	36.5	5.5	27.9	4.6	16.2	3.7	34.5	4.8
$25,000- 34,999	35.5	5.2	35.1	5.1	17.7	4.0	39.5	5.1
$35,000- 49,999	24.6	4.3	36.4	4.7	22.9	3.8	46.0	4.8
$50,000- 74,999	21.9	3.7	37.8	4.4	26.1	3.9	49.4	4.5
$75,000+	15.5	2.9	35.3	3.9	35.1	4.0	50.0	4.2
missing	33.8	4.6	27.3	4.3	18.0	3.7	33.9	4.4
Education								
Less than H.S.	47.8	6.3	23.8	5.1	12.1	3.9	27.5	5.2
H.S. or G.E.D	34.7	3.3	32.2	3.3	18.3	2.7	39.0	3.4
Some post-H.S.	25.7	3.2	34.8	3.5	23.2	3.2	44.1	3.6
College graduate	17.8	2.4	35.6	2.9	29.5	2.7	47.6	3.0
Disability[6]								
Yes	41.7	4.5	24.2	3.8	11.3	2.8	27.5	3.8
No	25.9	1.9	34.6	1.9	24.8	1.7	44.5	2.0

[1] Reported measures of physical activity are not mutually exclusive. Rows do not sum to 100 percent.

[2] All respondents 18 and older who report no leisure-time physical activity during the past month.

[3] All Respondents who report moderate-intensity physical activity for 30 min or more a day at least 5 days a week

[4] All Respondents who report vigorous-intensity physical activity for 20 min. or more a day at least 3 days a week

[5] All Respondents who meet either the moderate or vigorous criteria

[6] All respondents who report activity limitations due to physical, mental, or emotional reasons OR have health problems that require the use of special equipment.

* Unreliable estimate due to small sample size

Physically Active Adults

Physical activity was found to be inversely related to age. People aged 18-24 years had the highest rate of recommended physical activity (53%), but by ages 65 years and over the rate dropped to 31%. People living outside of New York City had higher rates of physical activity than people who lived in the city. New York City had a rate of recommended physical activity (37%) that was more than 7% lower than the rest of the state. Men and women have a similar rate for moderate activity, but men participated at much higher rates in vigorous activity and thus had a higher participation rate for overall recommended levels of physical activity. White individuals had a higher participation

rate than all other racial or ethnic groups on all measures of physical activity. Finally, both income and education were found to have a positive relationship with physical activity.

Discussion

The Measurement of Physical Activity

This report provides estimates of physical activity levels for New York in 2001 using a new set of measures. Past BRFSS surveys attempted to measure leisure-time physical activity only. The new approach attempts to consider physical activity from all non-occupational sources. For this reason, it is only possible to compare measures of no leisure-time physical activity in 2001 to previous years.

Past reports have referred to no leisure-time physical activity as physically inactive.[9] This label is now problematic, because it is possible to not participate in leisure-time physical activity and still be active in other dimensions. Changing to the use of the term no leisure-time physical activity also is helpful when comparing its measurement to its corresponding HP2010 objective, since the same term is used there as well.

Measures of moderate- and vigorous-intensity physical activity from multiple sources were established to assess progress towards the Surgeon General's recommendations. Some caution is necessary, however, when comparing these measures to their corresponding HP2010 goals. When those goals were established, only data on leisure-time physical activity were available. These goals would likely have been set higher if the measures of moderate- and vigorous-intensity physical activity used in this report were available.

Physical Activity and Public Health Strategies

The overall decrease since 1990 in the percentage of NY adults who get no leisure-time physical activity is encouraging (from 35% in 1990 to 29% in 2001), although over half of adults (56%) still report not getting enough physical activity to meet health recommendations. Differences in activity levels between men and women are relatively minor, while differences by age, race/ethnicity, income, education level and disability status are much larger. For instance, only 18% of adults with a college education get no leisure-time physical activity, while 48% of those with less than a high school education get no leisure-time physical activity –a difference of 30 percentage points. Similarly, while 50% of high-income adults meet physical activity recommendations, only 32% of low-income adults get enough physical activity to provide health benefits. Clearly, efforts to increase physical activity need to target these population groups that are at higher risk.

Increasing physical activity in New York requires public health action. Public health strategies fall into three areas: informational approaches, behavioral and social approaches, and environmental and policy approaches.[10] Informational approaches attempt to increase physical activity by educating people to change their behavior and sustain their efforts. Information is provided about the benefits and how to engage in physical activity. Behavioral and social approaches focus on increasing physical activity by teaching behavior management skills, while changing the social support systems for people trying to initiate or maintain behavior changes. Finally, environmental and policy approaches are designed to help people adopt healthier behaviors by developing facilities and establishing policies that support a physically active lifestyle.

The New York State Department of Health promotes physical activity through a variety of channels and settings including schools, worksites, health care settings, and general media campaigns. Strategies include a combination of informational and behavioral approaches, but the focus of the Department's efforts recently have been in the environmental and policy arenas. These strategies are tailored to the needs and interests of various population groups including children, adolescents, adults, the elderly, and minority populations. For example, to improve youth and adult physical activity levels, the Department works in partnership with a variety of groups and organizations, such as the Department of Education, the Department of Transportation, local health departments, employer groups, and health care organizations. All have interests that coincide with the public health goal of making our society more active.

The Healthy Heart Program (HHP) and the Eat Well/Play Hard Program (EWPH) have done the bulk of the work in this area. The HHP works with traditional and non-traditional partners to make it easier for people to choose healthy behaviors. As an example, the HHP has developed strong partnerships with transportation and land use professionals throughout the state to bring more attention to the need for more pedestrian-friendly environments. The HHP has also worked with numerous worksites throughout the state to promote physical activity to employees and make it easier for them to incorporate physical activity into their daily lives. HHP efforts with youth have included establishing walking and fitness trails on or near school grounds, and creating activity oriented clubs and events in schools and the community. The EWPH initiative promotes developmentally appropriate physical activity for preschool and school aged children through policy changes and educational efforts in Department of Health administrated nutrition programs and collaboration with daycare organizations, coordinated school health programs and youth organizations. EWPH Community Projects implement a variety of strategies to increase physical activity in children including mini-grants to schools, community guides for low-cost and family friendly physical activity options, and training for early childhood teachers.

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