

# Why Delaware Schools Should Continue to Assess Student Physical Fitness

Policy Paper #6 • 2009

Planting the seeds for better health

## SUMMARY

- 1 Childhood obesity is one of the most serious public health crises facing the nation.<sup>1</sup> Obesity puts children at risk for diabetes and other chronic illnesses and can lead to lifelong health problems, including reduced life expectancy.
- 2 Thirty-seven percent of Delaware children are overweight or obese.<sup>2</sup> Delaware has one of the highest prevalence rates of childhood obesity in the nation.<sup>3</sup> Eighty percent of obese adolescents are projected to remain obese throughout adulthood, resulting in an increased risk for chronic disease.<sup>4</sup> Obesity's rising prevalence is responsible for an almost thirty percent increase in medical expenditures nationally.<sup>5</sup> At least \$207 million is estimated to be spent each year to treat obesity-related medical problems in Delaware.<sup>6</sup>
- 3 Some states, including Delaware, have instituted policies mandating that schools collect student fitness data.<sup>7</sup> FITNESSGRAM® is the student fitness assessment tool that most states, including Delaware, use to collect fitness data.
- 4 Recent studies have used FITNESSGRAM data to demonstrate important linkages between fitness and academic achievement, disciplinary data, and absenteeism.<sup>8,9</sup> FITNESSGRAM is an essential tool in fighting childhood obesity in Delaware.

## Obesity and Poor Fitness Are Common among Delaware's Children

Childhood obesity is increasing at an alarming rate in the United States. Over the last forty years childhood obesity has more than quadrupled among 6 to 11 year olds and more than tripled among 12 to 19 year olds.<sup>10</sup> There are even higher rates among subpopulations of minority and economically disadvantaged children. All states are experiencing this epidemic. Delaware is among the hardest hit: 37 percent of Delaware's children are overweight or obese.<sup>2</sup>

Delaware children and youth have generally poor fitness levels: in 2007-2008 only 23 percent of all

students participating in the state FITNESSGRAM assessment scored in the "Healthy Fit Zone" for all five tests administered.<sup>11</sup> Sixty-six percent of Delaware middle school students do not engage in the recommended amounts of physical activity and the average Delaware youth is physically active for less than 20 minutes a day.<sup>12,13</sup>

Eighty-four percent of Delaware parents believe that inadequate physical activity in children is a problem; 95 percent of Delaware parents believe that schools have a role to play in addressing childhood obesity.<sup>14</sup>

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## About Nemours Health and Prevention Services

Nemours Health and Prevention Services (NHPS) is a division of Nemours, one of the nation's largest pediatric health systems, operating the Alfred I. duPont Hospital for Children and outpatient facilities throughout the Delaware Valley and northern and central Florida.

The goal of NHPS is to drive long-term improvements in policies and practices that promote child health, and to leverage community strengths and resources to help children grow up healthy. An initial area of emphasis is the prevention of childhood obesity through promotion of healthy lifestyles, the centerpiece of which is the *5-2-1-Almost None* campaign (visit [www.GrowUpHealthy.org](http://www.GrowUpHealthy.org) for details). NHPS is also launching an initiative to promote children's social and emotional health.





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## Our Formula for a Healthy Lifestyle: 5–2–1–Almost None

Nemours is taking a leading role to help people understand the causes and health implications of obesity and the best ways to promote healthier lifestyles among children and families.

5-2-1-Almost None is our formula for a healthy lifestyle.



- Eat five or more servings of fruits and vegetables per day.
- Spend no more than two hours per day in front of a screen (TV, video games, recreational computer time).
- Get at least one hour of physical activity per day.
- Drink almost no sugary beverages like soda and sports drinks.

## Monitoring Children’s Physical Fitness

States including Delaware, South Carolina, Texas, California, and West Virginia are tackling childhood obesity, in part, by monitoring student physical fitness.<sup>7</sup> All of these states are using a tool called FITNESSGRAM to assess student fitness.

FITNESSGRAM is an evidence-based tool created in 1982 by the Cooper Institute. It assesses student aerobic capacity, body composition, strength, endurance, and flexibility. These benchmarks represent a level of fitness that offers some degree of protection against diseases that result from physical inactivity.<sup>15</sup> Achievement of the fitness levels is based upon a test score falling in the Healthy Fit Zone (HFZ) for each of the five tests that measure a different aspect of fitness. Results are recorded on a student report.

## Demonstrating Links between Fitness and Academics

FITNESSGRAM is not only an effective surveillance tool for tracking student fitness; some states have been able to compare FITNESSGRAM data to important education issues including academic achievement, absenteeism, and disciplinary problems.

In California, a 2005 study analyzed FITNESSGRAM data in 5th, 7th, and 9th grade public school children and compared it to Standard Achievement Test 9th edition (SAT/9) scores. The study demonstrated students with higher FITNESSGRAM scores had higher SAT/9 test scores for reading and math.<sup>8</sup>

Preliminary findings from a 2009 study of 2.4 million Texas students

found that students who had higher FITNESSGRAM scores were more likely to do well on the state’s standardized tests, have better school attendance, and were less likely to have disciplinary referrals (incidents involving drugs, alcohol, violence and truancy).<sup>9</sup>

## Delaware Has Taken Action to Monitor Fitness

Delaware enacted its student fitness assessment policy in 2006. House Bill 372 was passed to amend Title 14 of the Delaware Code to assess fitness in public school students. The bill mandated that the Department of Education (DOE) develop a regulation requiring each local school district and charter school to assess the physical fitness of each student at least once at the elementary, middle and high school level and provide a report to parents, guardians or relative caregivers.<sup>16</sup> The intent was to provide baseline and periodic updates for each student and his or her caregiver and to establish a surveillance mechanism for Delaware. In response to this legislation, the DOE decided to assess student fitness levels in 4th, 7th and 9th, or 10th grades using FITNESSGRAM.

## FITNESSGRAM in Delaware

Delaware has the most sophisticated version of FITNESSGRAM on the market. FITNESSGRAM 9 is a web-based model designed for data to be collected at various sites and filtered to one state agency. Human Kinetics, the developer of FITNESSGRAM 9 software, selected Delaware to be the pilot state for this version of the tool. Previous versions of the program required each school to manually enter

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student name, date of birth, gender, grade, and ethnicity. FITNESSGRAM 9 allows the DOE to load the data into the system, saving schools from manual data entry.

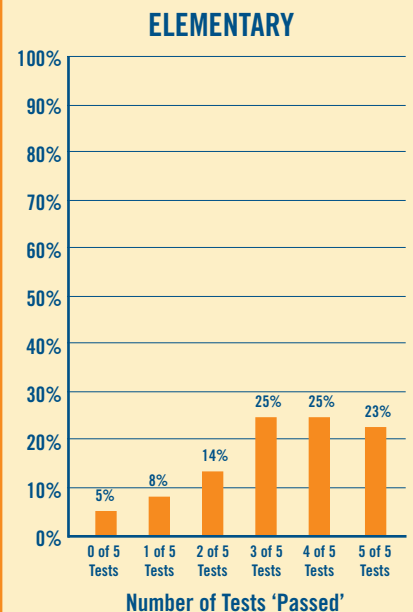
The DOE, Nemours Health and Prevention Services (NHPS), and Human Kinetics have worked together for the past three years to design and plan the FITNESSGRAM 9 database for Delaware as part of a cutting-edge method for monitoring student fitness. As the pilot site, the costs to develop and maintain the system have been significantly lower than they would have been had Delaware not been a pilot site.

The Delaware student fitness assessment scores from 2006 to 2009 will be in the centralized DOE database by June 2009. This data can then undergo comparative analyses with student test scores, disciplinary data, attendance data and other important records. Delaware will be able to replicate the major studies that have been performed in California and Texas and evaluate the impact of physical fitness on children's academic performance. These studies will help inform Delaware's strategies for improving fitness and likely academic performance.

## RECOMMENDED ACTION STEPS

- 1** Building upon significant progress in Delaware over the past three years, the Delaware Governor and policymakers must ensure that measuring student fitness using FITNESSGRAM remains a priority for the state.
- 2** The Delaware DOE, working with the University of Delaware and NHPS, should conduct comparative analysis using FITNESSGRAM and student test scores, disciplinary actions, absenteeism, and other relevant actions.
- 3** Delaware policy makers should help to stem the rising tide of obesity in Delaware's children by taking steps to improve physical fitness. All students should have the opportunity to be physically active in schools for a minimum of 150 minutes per week.<sup>17</sup>

**FITNESSGRAM Results**  
FITNESSGRAM 07-08 Standards of Excellence  
Delaware Department of Education  
Percentage of all students tested scoring  
in the Healthy Fit Zone



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## Notes

- <sup>1</sup> U.S. Department of Health and Human Services. (2001). *Surgeon General's Call to Action to Prevent and Decrease Overweight and Obesity*. Washington, D.C.
- <sup>2</sup> Nemours Health and Prevention Services. (2006). *Delaware Survey of Children's Health*. Newark, Delaware.
- <sup>3</sup> Trust for America's Health. (2008). *F as in Fat: How Obesity Policies Are Failing in America*. Washington, D.C. Delaware ranks 19 out of 51 states (on a scale of 1=worst) for childhood obesity prevalence in 10-17 year olds.
- <sup>4</sup> Guo, S.S., Wu, W., Chumlea, W.C., Roche, A.F. (2002). Predicting overweight and obesity in adulthood from body mass index values in childhood and adolescence. *American Journal of Clinical Nutrition*, 76, 653-658.
- <sup>5</sup> Thorpe, K.E., Florence, C.S., Howard, D.H., Joski, P. (2004). The impact of obesity on rising medical spending. *Health Affairs*, 4, W480-W484.
- <sup>6</sup> Finkelstein, E.A., Fiebelkorn, I.A., Wang, G. (2004). State level estimates of annual medical expenditures attributable to obesity. *Obesity Research*, 12, 18-24.
- <sup>7</sup> National Conference of State Legislators. (2008). *Childhood Obesity – 2008 Update of Legislative Policy Options*. Retrieved April 9, 2009, from <http://www.ncsl.org/programs/health/ChildhoodObesity-2008.htm#body>
- <sup>8</sup> Grissom, J. (2005). Physical Fitness and Academic Achievement. *Pediatric Exercise Physiology*, 8(1), 11-25.
- <sup>9</sup> Texas Education Agency. (2009). *Physically fit students more likely to do well in school, less likely to be disciplinary problems*. Retrieved March 31, 2009, from <http://ritter.tea.state.tx.us/press/09fitnessresults.pdf>
- <sup>10</sup> Ogden C.L., Carroll M.D., Curtin L.R., McDowell M.A., Tabak C.J., Flegal, K.M. (2006). Prevalence of Overweight and Obesity in the United States, 1999-2004. *JAMA*, 295, 1549-1555. At the time these data were published, the old classification for overweight was still used—individuals with a BMI equal to or greater than 85% and less than 95% were classified as “at risk for overweight” and individuals with a BMI equal to or greater than 95% were classified as “overweight.” Based on the 2007 Expert Committee Recommendations, NHPS describes the previous category of “at risk of overweight” as “overweight” and those previously referred to as “overweight” are described as “obese.”
- <sup>11</sup> Delaware Department of Education. (2008). FITNESSGRAM 07-08 Standards of Excellence [Data File].
- <sup>12</sup> Nemours Health and Prevention Services. (2007). Middle School Youth Risk Behavioral Surveillance Survey (YRBSS) [Data File].
- <sup>13</sup> Nemours Health and Prevention Services. (2005). *Delaware Children's Health Chartbook*. Newark, Delaware.
- <sup>14</sup> Lake Research Partners. (2006). *Parents' Views on Fitness, Nutrition, and Overweight/Obesity among Delaware's Children and Teens*. Retrieved April 9, 2009, from <http://static.nemours.org/www-filebox/nhps/research.pdf>
- <sup>15</sup> Human Kinetic Publishers, Inc. FITNESSGRAM®/ ACTIVITYGRAM®: *Activity and Fitness Assessment and Personal Physical Activity Management*. Retrieved April 9, 2009, from <http://www.fitnessgram.net/home/>
- <sup>16</sup> Statewide Health Advisory Council. (2007). *First Annual Report to the Governor and Members of the General Assembly*. Dover, Delaware.
- <sup>17</sup> NHPS Policy Brief #5 explains the importance of this level of physical activity in students. Available at [www.growuphealthy.org](http://www.growuphealthy.org)

