

Stuck in the Middle: The False Choice Between Health and Education in Texas Middle Schools

Recommendations for Programs and Policies

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Stuck in the Middle: The False Choice Between Health and Education in Texas Middle Schools

Recommendations for Programs and Policies

All over Texas, school administrators are scheduling precious school time and choosing between: (A) improving academic performance or (B) improving health and fitness. It may seem a difficult task, choosing between healthy or educated students; but in reality the administrator's dilemma is a false choice. Many studies have proven that the correct answer is: (C) academics will improve *by* advancing health and fitness. Texas needs to make fitness, health, and academic achievement a much higher priority.

Texas has strong policies and programs in place and has begun to realize the physical and academic benefits of physical activity. But these policies need to be strengthened, and much remains to be accomplished. What is needed most is the *will to fully implement* these programs and policies; the understanding and faith that healthier children will become better learners; and the time, talent, and financial support of Texas citizens to address this issue. The goal of this report is to provide information summarizing the current status of middle school physical education (PE) programs and policies, as well as recommendations for improvement.

There should be no choice between health and academic achievement.

When schools devote time to daily physical education and health programs, fitness and academic measures will improve.

Far too many Texas children are not meeting education standards, are unfit, and are obese.

Texas needs to protect its investment in school fitness and expand implementation of proven school health programs.

Texas has good policies in place but lacks the will to fully implement them.

Unfortunately, recent Texas public policy has led to an unintended consequence. At a time when Texas public schools face unprecedented budget challenges and soaring obesity rates, many school principals feel *stuck in the middle*: being held accountable for raising standardized test scores *and* complying with physical and health education mandates. This anxiety is unnecessary because devoting school resources in *support of student health also supports academics*. Furthermore, supporting health is critical for our society. After all, what good is an educated society when its citizens are unable to strenuously exert themselves, are burdened with chronic disease, and are destined to die young? Ask yourself, what could

be a higher school priority than improving fitness and health, bringing down health care costs, and ensuring a competent work force?

There is substantial [evidence](#) that fitness enhances physical health *and* cognitive functioning, both of which are important in improving academic performance. Enhanced cognitive functioning means better concentration, attention to detail, and reductions in disruptive classroom behaviors—in other words, better learning. Enhancing physical health means achieving and maintaining appropriate body weight and fitness levels, and being free of debilitating ailments such as type 2 diabetes, asthma, or depression.

A Short Course on Texas Fitness and Health. After reviewing the research evidence and status of school PE requirements, compliance, and resources in Texas, the following conclusions can be drawn:

1. Health is academic. A new national [report](#) confirms what our mothers and teachers always knew: Improving the quantity and quality of PE will improve the education and health status of Texas students, including *fitness, standardized testing, school grades, and absenteeism*. Three Texas studies provide local evidence for these facts:

- Van Dusen [reported](#) that a high level of fitness predicted high reading and math scores on the Texas Assessment of Knowledge and Skills¹ ([TAKS](#)). The strongest association was found in 7th and 8th grades.
- Murray [reported](#) that students who did 60 minutes of daily school physical activity, including classroom activity breaks and PE, had significantly higher Stanford 10 math scores compared to students in control schools receiving 30 minutes of daily school physical activity. For children with poor adaptation to school, both math and reading scores improved, *despite allocating more school time to physical activity*.
- Welk [reported](#) in a study of two million Texas students that fit children had *better school attendance and lower school delinquency*.

2. Texas is raising a generation of overweight and unfit children who have a projected [life expectancy](#) lower than their parents and who have a reduced ability to [compete](#) in the U.S. and global economies. Unfit and obese children are more prone to kidney, liver, respiratory, endocrine, skeletal, and mental health disorders. This includes type 2 diabetes, asthma, depression, and joint diseases. They are also more prone to bullying, sexual assault, social isolation, and a host of other unhealthy behaviors. If that is not bad enough, 70% of overweight children grow up to become overweight adults and suffer from chronic disease such as cardiovascular disease, cancer, fatty liver, and diabetes. If nothing changes, by 2040 the total cost of obesity in Texas will reach [\\$39 billion](#) annually. It has also been estimated that by 2025 obesity will

¹ http://www.tea.state.tx.us/index3.aspx?id=44&menu_id=793

cost Texas *businesses* alone [\\$15.8 billion](#) annually in obesity-related illnesses. Poor fitness and dietary choices are the primary components in the development of obesity and related acute and chronic diseases.

3. Many Texas children are fat and unfit. There is substantial [evidence](#) that Texas children lag far behind recommended levels of physical fitness. The same evidence points to a great need in this state for continued PE and school health reform. This is particularly true for African American and Hispanic youth, and even worse for those who are economically disadvantaged. The 2010 Texas FITNESSGRAM assessment shows that:

- 75% of middle school children failed all six state fitness standards (85% of the economically disadvantaged);
- 31% failed the body composition (obesity) test;
- 43% failed the aerobic capacity test.
- Data from the 2004-2005 Texas School Physical Activity and Nutrition ([SPAN](#)) study reported that among 8th grade students, 18% were overweight, 17.5% were obese, and 4.8% were extremely overweight. Rates of obesity were highest among Hispanic boys and African American girls.

4. Texas is graduating a generation of students unable to protect American soil or global interests. A [2010](#) statement, signed by 125 retired American generals and admirals, reports that while 25% of young Americans are ineligible to serve because of failure to graduate from high school, over 27% are too heavy to join the military. The shrinking pool of fit young people also makes it harder for fire, police, and EMT forces to recruit to fill open positions. Eventually, recruitment, training, and rehabilitation costs will skyrocket to maintain these critical public services. During World War II, the opposite was true: The military discovered that at least 40% of rejected recruits were turned away for reasons related to poor nutrition. This finding led directly to the National School Lunch Program.

“It is an unfortunate fact that much of the contemporary youth population is currently ineligible to serve. Being overweight is by far the leading medical reason for rejection.”

Clifford L. Stanley, Under Secretary of Defense in testimony before the Military Personnel Subcommittee, March 17, [2010](#).

5. **Thanks to many Texans dedicated to improving children’s health, our state leads the nation in fitness assessment, programs, and policies for middle school PE.** Several of these policies need strengthening and the public will to fully implement them in our schools.

- Texas Education Code **mandates** that students enrolled in grades K–6 participate in:
 - 30 minutes of daily physical activity, [§28.002](#)², section 25, 2001, 2005, 2007. (For middle schools the requirement is four of six semesters, grades 6–8.) The national recommendation is 60 minutes per day.
 - Coordinated School Health Program (CSHP). [§38.014](#)³, 2001. The most comprehensive and effective nutrition and PE programs are not uniformly implemented.
 - Annual physical fitness assessments (grades 3–12), [§38.101-38.106](#)⁴, 2007. Parents are not provided feedback on their child’s performance.
- Texas Administrative Code, Chapter 116 ([§116.21-24](#)⁵), provides the Texas Essential Knowledge and Skills (TEKS) for grades 6–8 PE, defining quality PE instruction. PE teachers need additional training in CSHP and activity-based PE.
- Texas Education Code [§38.058](#)⁶ provides the establishment in each school district of a School Health Advisory Council (SHAC) that oversees nutrition and physical activity. Most SHACs do not have reliable funding to implement innovative programs or needed school improvements.

6. **Texas Fitness Now⁷ (TFN) grants are *the* major source of public investment in disadvantaged middle school PE programs. Therefore, current state investments must be protected and increased.** Since 2007, TFN grants have provided 30 million badly needed dollars to upgrade the PE infrastructure in middle schools. While this is a great deal of support, not all Texas middle schools benefit from TFN. Since eligible schools had to be 60% or greater economically disadvantaged, many schools were left out. Among eligible schools, TFN reached 85% of them, which accounts for 41% of all Texas middle school children. The state budget shortfall has put Texas Fitness Now grants in jeopardy.

² <http://www.statutes.legis.state.tx.us/Docs/ED/htm/ED.28.htm#28.002>

³ <http://www.statutes.legis.state.tx.us/Docs/ED/htm/ED.38.htm#38.014>

⁴ <http://www.statutes.legis.state.tx.us/Docs/ED/htm/ED.38.htm#38.101>

⁵ <http://ritter.tea.state.tx.us/rules/tac/chapter116/ch116b.html>

⁶ <http://www.statutes.legis.state.tx.us/Docs/ED/htm/ED.38.htm#38.058>

⁷ <http://www.window.state.tx.us/education/txfitness/>

7. **Texas Knows What to Do.** The [2008](#) Physical Activity Guidelines for Americans state that children and adolescents should spend *60 minutes or more doing physical activity* on each day of the week. These include a) aerobic, b) muscle-strengthening, and c) bone-strengthening physical activities.

- The percentage of students who meet physical activity standards drops rapidly during middle school, especially among girls. This is the reason for targeting middle school PE for improvement.
- Two of the three Texas Education Agency (TEA)-approved middle school coordinated school health programs, CATCH and SPARK, have strong research evidence of effectiveness for improving the quality of PE. Both of these programs are cited by the CDC Community Guide to Preventive Services as “[Recommended](#).”
- PE and school CSHP are considerably strengthened when linked to local community-based organizations. The [El Paso](#) and [Travis County](#) CATCH demonstration projects illustrate that child obesity can be reduced with a coordinated school program that includes community involvement, even in economically disadvantaged populations. Similar findings have been reported in [Massachusetts](#) and [Australia](#).

Getting Unstuck: The Way Out of the Middle. Our public education system was built to develop well-educated, productive, and healthy citizens. But over time, the system changed and deemphasized the importance of health in relation to academics. This report serves as a reminder that *PE and health are every bit as important to our society as academic achievement.* Our society needs to reprioritize health, improve PE and health classes, and get our children doing 60 minutes or more of physical activity per day.

Texas government and Texas schools cannot solve the youth fitness problem alone. But the State of Texas can.

The question is, how many of those 60 minutes are the responsibility of the school? This report suggests that between 30 and 60 minutes of physical activity per day is feasible and provides guidance on how to achieve that goal.

Many of the recommendations will require redirecting time and resources—and not just on the part of schools. Local control should always dictate *how* schools achieve their 30–60 minutes; yet schools will need help from all sectors of the Texas economy. Ask yourself: When the fitness and health of our children are improved, who benefits, apart from the education community? Families? Health care? Businesses? Religious entities? Agriculture? Law enforcement agencies? Supporting our educational system supports the interests of us all.

Some of the recommendations in this report may seem simple to implement yet carry an administrative cost that is difficult to quantify, given a state as large as Texas. Many schools in Texas do not have the tax base to fully implement quality PE and CSHP programs. And while the Texas economy is strong compared to the rest of the country, public resources are insufficient to accomplish the priorities listed below. When assessing *your* contribution to the solution, think of the impact on your local schools. Does the PE department have the equipment, space, and qualified teachers to achieve the goal? Does local leadership understand the importance of improving fitness? Does the school have the staff and equipment to assess and monitor physical fitness and child health? How can local businesses get involved?

Getting Unstuck: The Way Out of the Middle

All Texans must act together to support our schools and improve youth fitness and health. To this end, the following solutions and priorities are proposed for policymakers, philanthropists, and schools. They are presented, in brief, on pages 7 & 8, followed by greater detail on pages 9-13.

Solution 1: Strengthen existing Texas public policies.

Priority 1. Modify Texas Education Code [§28.002](#) so that the language reads “daily physical education for at least 30 minutes” rather than “daily physical activity for at least 30 minutes.”

Priority 2. Modify Texas Education Code [§39.023](#)⁸ to include TAKS assessment for PE/health education.

Priority 3. Modify Texas Education Codes [§38.101–03](#) to require that a “fitness report card” be sent home.

Priority 4. Modify Texas Education Code [§28.002](#) to require 30 minutes of daily physical activity for each semester in grades 6–8.

Priority 5. Modify Texas Education Codes [§38.101–03](#) to require use of the [CDC](#) reference standards for classification of child overweight and obesity.

Solution 2: Protect and preserve Texas Fitness Now (TFN) public funding.

Priority 1. Continue funding TFN⁹ at least \$10 million a year.

Priority 2. Increase the eligibility of TFN funding from more than 60% economically disadvantaged to more than 40%.

Priority 3. Require schools applying for TFN grants to leverage state funds with \$5.00 per student in local funds and implement a coordinated school health program.

Priority 4. Require PE teachers at TFN-funded schools to obtain professional development credits (PDCs) in physical activity for life and implementation of CSHP¹⁰.

⁸ <http://www.statutes.legis.state.tx.us/docs/ed/htm/ed.39.htm>

⁹ TFN refers to Texas Fitness Now grant funding

¹⁰ CSHP refers to Coordinated School Health Program

Getting Unstuck: The Way Out of the Middle

Solution 3: Implement evidence-based PE and CSHP programs.

Priority 1. Middle schools should implement the CATCH or SPARK PE program for 30 minutes per day.

Priority 2. Middle schools should implement a CSHP program that integrates PE, child nutrition services, classroom curricula, family and local community involvement, and 24/7 on-line training.

Priority 3. Middle schools should implement the Take 10! or PASS & CATCH classroom activity break program for 20–30 minutes per day.

Priority 4. School facilities should be made available before and after school for use by the school community and community-based organizations for intramural physical activity programs.

Priority 5. School leaders, businesses, youth organizations, and foundations should be encouraged to form partnerships that foster citizen involvement and volunteerism to support school PE and CSHP.

Priority 6. Innovative individuals and organizations that improve the health, fitness, and academic achievement of Texas children should be recognized and rewarded.

Priority 7. Make sure that middle school students have safe places to exercise, play, and walk to school.

Priority 8. Conduct annual campus or community events to heighten school community awareness of physical activity and health.

Priority 9. Provide one full-time employee devoted to CSHP at each of the 20 Education Service Centers with sole responsibility for PE and Coordinated School Health.

Solution 4: Improve monitoring and public reporting of fitness, PE, and CSHP.

Priority 1. School FITNESSGRAM data should be reported annually to the public.

Priority 2. Texas should gather annual [SPAN](#) data from middle school students to determine state-wide physical activity patterns and obesity levels.

Priority 3. The TEA should monitor and report school compliance to PE and CSHP education codes.

Priority 4. School campuses should annually integrate student FITNESSGRAM data with TAKS academic achievement, absenteeism, and student demographics data.

Getting Unstuck: The Way Out of the Middle (Full Detail)

Solution 1: Strengthen existing Texas public policies. Texas has strong policies and programs in place to begin realizing the physical and academic benefits of physical activity. However, much remains to be accomplished.

Priority 1. Modify Texas Education Code §28.002 so that the language reads “daily physical education for at least 30 minutes” rather than “daily physical activity for at least 30 minutes.” Although increased physical activity is the desired goal, it is PE that teaches our children about the variety of physical activities and how to become physically fit. Because Texas code is written as “physical activity,” a variety of non-PE extracurricular activities can be substituted for PE, thus depriving students of the educational and health benefits of quality PE. The code also allows for scheduling alternatives as long as the student receives at least 225 minutes of moderate to vigorous physical activity (MVPA) in a two-week period. This number should be revised to at least 275, which is closer to the desired 300 minutes.

Priority 2. Modify Texas Education Code §39.023¹¹ to include TAKS assessments for PE and health education. Although TEKS¹² for PE and health education exist, neither is measured on the current TAKS¹³ exam. If it is not measured, it will not become a priority for school administrators. The TEA should organize a committee charged with investigating question methodologies, feasibility, and costs to administer the new PE and health assessments. Assessment development cost is estimated at \$150,000.

Priority 3. Modify Texas Education Codes §38.101–03 to require that a “fitness report card” be sent home. Parents have the right to know what information the school is collecting on their child. The report card should inform parents of their child’s level of fitness and weight status. It should also include accompanying information on weight management resources in the community and medical information. An annual report card will help parents make informed decisions regarding their child’s health. Finally, parents should be notified on the report card as to how their child’s PE and CSHP¹⁴ requirements are being met (Texas Education Codes §28.002, §28.004¹⁵, §38.014). By making use of existing school staff and computer programs, the estimated costs of organizing, printing, and sending the fitness report cards to parents would be minimal. The additional costs of preparing the report cards and accompanying information can be borne by the TEA and the Texas Department of State Health Services (DSHS).

Priority 4. Modify Texas Education Code §28.002 to require 30 minutes of daily physical activity every semester in grades 6–8. The current code requires daily “physical activity” in four of the six semesters in grades 6–8. Most schools require PE in 6th grade (or non-PE alternatives) and allow scheduling flexibility during 7th and 8th grades. While this assists with school scheduling, for many students their overall level of physical activity plummets in these two grades at a critical time of their physical and cognitive development.

Priority 5. Modify Texas Education Codes §38.101–03 to require use of the CDC reference standards for classification of child overweight and obesity. When Texas reports the percentage of children who are overweight and obese from FITNESSGRAM, it uses a different reference standard than the rest of the country. Most states (and worldwide) use the CDC reference standards.

¹¹ <http://www.statutes.legis.state.tx.us/docs/ed/htm/ed.39.htm>

¹² <http://ritter.tea.state.tx.us/rules/tac/chapter115/index.html>

¹³ http://www.tea.state.tx.us/index3.aspx?id=44&menu_id=793

¹⁴ CSHP refers to Coordinated School Health Program

¹⁵ <http://www.statutes.legis.state.tx.us/Docs/ED/htm/ED.28.htm#28.004>

Getting Unstuck: The Way Out of the Middle (Full Detail)

Solution 2: Protect and preserve Texas Fitness Now (TFN) public funding. The Texas Legislature is confronted with large budget cuts. All state agencies have been asked to cut costs, and TFN grants have been targeted for reduction by the Texas Education Agency.

Priority 1. Continue funding TFN at a minimum of \$10 million a year. Allow schools that have received TFN funding (approximately 424,000 children) to apply for new funding to train, implement, and support CSHP¹⁶ at an annual per capita spending of \$8.00 per child. Estimated annual cost is \$3.4 million.

Priority 2. Increase the eligibility of TFN funding from more than 60% economically disadvantaged to more than 40%. To date, TFN funding has reached only 41% of Texas middle schools (81% of those eligible). Expanding the reach of this funding would help alleviate the health disparities that arise due to the racial/ethnic and economic diversity of Texas. Estimated cost is \$5.4 million.

Priority 3. Require schools applying for TFN grants to leverage state funds with \$5.00 per student in local funds and implement a coordinated school health program. Schools applying for TFN funding should provide a plan detailing their compliance with existing PE and CSHP TEC codes (TEC [§28.002](#); [§38.013](#)¹⁷; and TAC [§116.21-24](#)). To leverage state funds, the plan should include a minimum per capita spending for PE and CSHP training, materials, and supplies from local funds at \$5.00 per child.

Priority 4. Require PE teachers at TFN-funded schools to obtain professional development credits (PDCs) in physical activity for life and implementation of CSHP. All too often, PE teachers obtain annual PDCs in competitive sports coaching rather than in delivering quality PE that will benefit both athlete and non-athlete students. CSHP includes PE and physical activity. Estimated annual cost is \$1,000–\$2,500 per school.

¹⁶ CSHP refers to Coordinated School Health Program

¹⁷ <http://www.statutes.legis.state.tx.us/Docs/ED/htm/ED.38.htm#38.013>

Getting Unstuck: The Way Out of the Middle (Full Detail)

Solution 3: Implement evidence-based PE and CSHP programs. National guidelines state that children and adolescents should spend *60 minutes or more doing physical activity* on each day of the week. Yet schools cannot do it alone. Teachers need professional development, CSHP curriculum materials, and PE equipment; children and adolescents need safe places to exercise, play, and walk to school. The priorities have three simple goals: 1) to teach Texas middle school children how to achieve 60 minutes per day of physical activity; 2) for Texas middle schools to implement CSHP; and 3) to encourage public officials and private organizations to adopt a school (or district) and direct them on how to most effectively invest their resources.

Priority 1. Middle schools should implement the CATCH or SPARK PE program for 30 minutes per day. [CATCH](#) and [SPARK](#) are two of the three TEA-approved CSHP programs. Both programs have PE components with well-documented research results. Both will achieve a 50% or greater MVPA rate during PE with the goal of helping all students develop health-related fitness, physical competence, and positive attitudes about physical activity. Annual PE teacher training and equipment cost is \$1,500–\$3,500 per school. A more expensive but highly motivating and useful adjunct to CATCH and SPARK is the [HOPSPORTS](#) computer-based PE system. Unlike CATCH and SPARK, this system requires adequate gym and storage space, tech-savvy PE staff, a dedicated server, and a big-screen projector.

Priority 2. Middle schools should implement a CSHP program that integrates PE, child nutrition services, classroom curricula, family and local community involvement, and 24/7 on-line training. When health lessons are reinforced in both the school and home environments, the likelihood of student health behavior change is strongest. CATCH, in combination with the [Coordinated Health Institute](#), is the only TEA-approved CSHP meeting all these requirements. In-person training is consistently the strongest predictor of CSHP implementation. 24/7 on-line staff development is also recommended because of frequent teacher turnover, with the objective of creating a school network to communicate new innovations. The first-year cost is \$8.00 per student, with subsequent years at a cost of \$5.00 per student.

Priority 3. Middle schools should implement the Take 10! or PASS & CATCH classroom activity break program for 20–30 minutes per day. Classroom activity breaks are short bursts of teacher-directed physical activity throughout the school day that engage students in MVPA. [Take 10!](#) and [PASS & CATCH](#) are two programs developed by Texas researchers with proven efficacy in increasing MPVA and improving math and reading standardized scores among elementary school children. The cost and training of these two programs is less than \$1.00 per student.

Priority 4. School facilities should be made available before and after school for use by the school community and community-based organizations for intramural physical activity programs. Simply opening the gym before school, putting out recreational equipment, and promoting its use has been shown to generate 15 minutes of MVPA and reduce morning discipline problems, without using any school time. Joint land use [agreements](#)¹⁸ allow utilization of school grounds for intramural sports or physical activity after hours without fear of legal reprisal. Joint land use could be for free, at minimal cost, or a revenue generator, thus maximizing public investment in school facilities. Personnel to manage PE equipment, supervise students, and clean and lock the building are often needed. PE equipment and storage lockers are often lacking in schools interested in providing their gym to outside groups.

¹⁸ <http://www.nplanonline.org/nplan/products/community-use-charts>

Getting Unstuck: The Way Out of the Middle (Full Detail)

Solution 3, Priority 5. *School leaders, businesses, youth organizations, and foundations should be encouraged to form partnerships that foster citizen involvement and volunteerism to support school PE and CSHP¹⁹.* PE and CSHP program effects are [enhanced](#) when the school is organized and engages in CSHP that includes nutrition education as well as parent and community outreach. Research shows that quality PE and CSHP programs are [sustained](#) when local community businesses and organizations become involved in supporting school efforts. Estimated costs are minimal and are dependent on community support and organization. [ACTIVE Life](#) is a Texas and national 501c3 devoted to this purpose.

Priority 6. *Innovative individuals and organizations should be recognized and rewarded.* Public recognition raises awareness of problems and solutions and rewards those who offer their time and talents to improve the health, fitness, and academic achievement of Texas children. Meaningful recognition and reward for top innovators can be accomplished at a cost between \$500 and \$1,500 per individual/organization or alternatively with an on-line recognitions system such as the one used by [ACTIVE Life](#).

Priority 7. *Make sure that middle school students have safe places to exercise, play, and walk to school.* Roving packs of dogs in the state's border region, crime and bullying in urban areas—Texas students can potentially encounter a variety of unsafe elements. Yet they need safe places to do physical activity. Communities implementing the DARE drug education program can implement [DARE PLUS](#), an evening program in which middle school children come to school for a safe social event and physical activity. Portable classrooms offer an ideal setting to place fitness equipment. In this setting, after school tutoring programs can truly become an “active learning” environment. Exercise trails surrounding the school campus can provide a safe corridor for students to walk, run, or bike without fear of traffic injury. Costs can vary considerably to make this priority a reality; yet much can be accomplished with donated equipment, supplies, and/or volunteers. Constructing campus walking trails and outfitting a portable classroom with fitness equipment can each cost from \$10,000 to \$25,000. Further development or improvement of school playing fields or green space may cost between \$10,000 and \$50,000. Purchasing land adjacent to the school for the development of parks and recreation can cost considerably more.

Priority 8. *Conduct annual campus or community events to heighten community awareness of physical activity and health.* School-wide events such as family fun nights, field days, or 5K fun runs, call attention to the fact that physical activity is important. While unlikely to change student physical activity behavior alone, events like these create community cohesion, bring students and parents together for a positive social environment, and bring out influential community members and local elected officials. These events can also become a catalyst for local community change and volunteerism. [Marathon Kids](#) and [ACTIVE Life](#) of Texas are organized to provide instruction for district-wide field day events.

Priority 9. *Add one full-time TEA employee to each of the 20 Texas Education Service Centers (ESCs) with sole responsibility for PE and Coordinated School Health.* The TEA is charged with developing grade-level PE and health education standards, administering FITNESSGRAM assessments, and managing the ESCs. The DSHS employs one Regional Health [Specialist](#) responsible for providing health-related training and services to school districts within a defined ESC geographic region. Given the importance of youth fitness and the content and geographic scope of each health specialist, the addition of the PE and health education content specialist is warranted. This could be accomplished at \$80,000–\$100,000 per region (salary, benefits, travel, and supplies).

¹⁹ CSHP refers to Coordinated School Health Program

Getting Unstuck: The Way Out of the Middle (Full Detail)

Solution 4: Improve monitoring and public reporting of fitness, PE, and CSHP. We must improve outcome monitoring and public reporting to ensure that plans are implemented, spending is accountable, and the desired results are achieved. Public reporting at the local level ensures a fully informed public and encourages accountability across and within school districts.

Priority 1. School FITNESSGRAM data should be reported annually to the public. At this time public reporting is at the highest aggregated levels by the TEA. School report templates, analogous to those available with the TAKS reporting system, should be annually produced by TEA. Data management and template production possibly could be achieved with existing TEA resources; however, they might require additional funding from public or private resources. Alternatively, a university or private research firm could be contracted to prepare the data and reports.

Priority 2. Texas should gather annual SPAN data from middle school students to determine state-wide physical activity patterns and obesity levels. SPAN was developed by Texas researchers together with state health officials and is designed to collect information about engagement in school and non-school physical activity and organized sports, as well as nutrition and other obesity-related data. SPAN data would be representative of the entire state yet would not require data collected from all children. Estimated Texas out-of-pocket cost is between \$100,000 and \$150,000 for data collection; additional costs for data management and analysis are between \$60,000 and \$100,000.

Priority 3. The TEA should monitor and report school compliance to PE and CSHP education codes. Data collection could be accomplished with inexpensive on-line surveys and TEA personnel. Data management and template production possibly could be achieved with existing TEA resources; however, they might require additional funding from public or private resources. Alternatively, a university or private research firm could be contracted to prepare the data and reports.

Priority 4. School campuses should annually integrate student FITNESSGRAM data with TAKS academic achievement, absenteeism, and student demographics data. This should be done at the local school district level. The linking methods should make use of the Public Education Information Management System ([PEIMS](http://ritter.tea.state.tx.us/peims/)²⁰). By linking child health-related fitness with academic data, true correlations of assessment of the effects of fitness on academic outcomes can be determined. Estimated costs for data integration are minimal with the use of existing school personnel and data systems. Data analysis and report writing is a potential problem, depending on the level of data management and statistical skills within each school district. Packaged analytic templates and standardized data management systems would reduce costs and increase efficiency.

²⁰ <http://ritter.tea.state.tx.us/peims/>

Background Materials

Demography of Texas Public School Children. Texas is a large and diverse state with over four million public school students. Information gathered from the TEA Student Data [System](#)²¹ shows that the total number of elementary, middle school, and high school

Table 1. Demography of Texas Public School Children		Numbers of Texas children by ESC Regions and Race/Ethnicity			
Educational Service Centers	% Economically Disadvantaged	Hispanic	White	AA	Total
ESC 1 Edinburg	85.6%	333,196	7,685	905	343,912
ESC 2 Corpus Christi	65.0%	64,462	20,712	3,262	90,033
ESC 3 Victoria	61.1%	22,602	17,852	4,907	46,035
ESC 4 Houston	57.9%	419,248	259,643	196,783	938,056
ESC 5 Beaumont	57.2%	9,329	38,707	20,191	70,393
ESC 6 Huntsville	49.9%	39,544	87,365	18,328	149,166
ESC 7 Kilgore	59.8%	31,518	83,790	28,358	145,638
ESC 8 Mount Pleasant	61.0%	7,721	29,930	10,679	49,135
ESC 9 Wichita Falls	53.9%	7,052	22,403	3,109	33,489
ESC 10 Richardson	55.2%	252,451	225,686	130,803	648,924
ESC 11 Fort Worth	46.2%	141,960	234,179	68,201	469,222
ESC 12 Waco	57.0%	36,062	62,843	29,146	131,453
ESC 13 Austin	47.4%	132,267	145,997	30,263	322,787
ESC 14 Abilene	57.2%	14,538	24,579	3,397	43,342
ESC 15 San Angelo	61.1%	22,343	17,737	1,316	41,792
ESC 16 Amarillo	58.0%	29,518	35,847	4,262	71,663
ESC 17 Lubbock	61.1%	36,299	26,452	5,625	69,402
ESC 18 Midland	57.0%	41,392	21,787	3,772	67,898
ESC 19 El Paso	76.0%	140,790	11,259	4,548	158,396
ESC 20 San Antonio	63.9%	234,924	77,566	26,220	346,759
Totals	59.6%	2,017,216	1,452,019	594,075	4,237,495

students in the state of Texas in the 2009–2010 academic year was 4,237,495 (Table 1). Of this total, 59.6% (2,525,547) were considered “economically disadvantaged”—typically defined as eligible for free or reduced-price meals.²² There is a grand total of 8,468 Texas public schools: 4,517 elementary schools, 815 elementary/secondary schools,

²¹ <http://www.texasstudentdatasystem.org/>

²² Note that not all school districts categorize grade levels/schools in the same way. For example, in some districts “middle school” includes grades 7–9 or “junior high” includes grades 7–8, instead of the more typical grades 6–8.

1,295 middle schools, 321 junior high schools, 1,507 high schools, and 13 “other” schools. The majority of students are Hispanic (47.6%), followed by White (34.3%), African American (14%), Asian/Pacific Islander (3.8%), and Native American (.4%).

Physical Activity, Fitness and Academic Achievement. Middle school is a time of rapid physical growth and cognitive development in which many students begin as preadolescent children and leave as young adults. Physical activity has a nurturing and

In July 2010, the U.S. Department of Health and Human Services released a report titled *The Association Between School-Based Physical Activity, Including Physical Education, and Academic Performance* ([CDC, 2010](#)). The articles in this report concluded that:

- (1) Physical activity improves academic achievement, including grades and standardized test scores;
 - (2) Physical activity can have an impact on cognitive skills, including enhanced concentration and attention, as well as improved classroom behavior; and
 - (3) Increasing time dedicated to physical education does not adversely impact academic performance.
-

protective effect on the brain by improving the heart’s ability to pump blood and by stimulating the growth of cerebral neurons, synapses, and blood vessels ([US DHHS, 2008](#)²³). Movement and exercise increase breathing and heart rate so that more blood flows to the brain, thus enhancing energy production and waste removal. Physical activity oxygenates the brain—which is why taking a walk can help people “clear their head” and think better. Exercise has effects on higher mental “executive functions” involving memory, planning, organization, and the capability to juggle different intellectual tasks (Sibley and Etnier, [2003](#)). Exercise also helps youth who have difficulty with impulse control.

Hillman, Castelli, and Buck ([2005](#)) correlated aerobic fitness as measured by the FITNESSGRAM PACER running test with improvement in brain functioning necessary for cognitive success. Among children with higher aerobic test scores, they found increased P3 receptor event-related brain potential (ERP) amplitude and lower P3 receptor latency, which suggests better attention span, working memory, reaction time, and overall processing speed. In addition to promoting healthy brain growth, physical activity can help young people with chronic disease. Physical activity has long been prescribed as an anti-

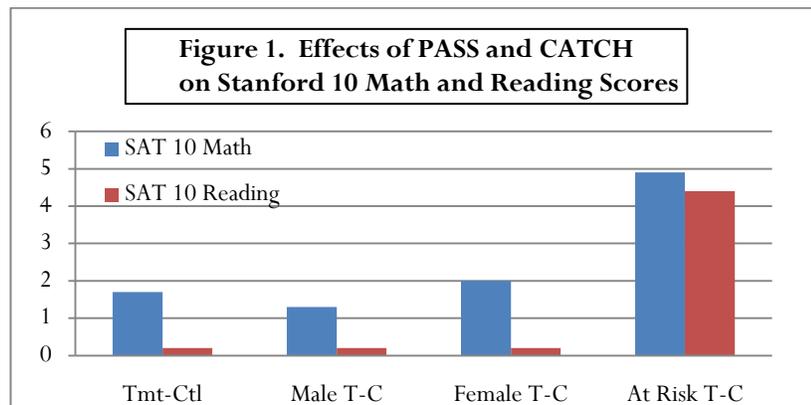
²³ <http://www.health.gov/paguidelines/guidelines/chapter3.aspx>.

depressant, to control glucose in diabetics, and to defend against cognitive decline. Clearly, an *inactive* life is not best for the brain.

There is substantial evidence that physical activity can help improve academic achievement, including grades and standardized test scores ([CDC](#)). Physical activity can have an impact on cognitive skills and attitudes and academic behavior, all of which are important components of improved academic performance. These include enhanced concentration and attention as well as improved classroom behavior. In a thorough literature review, Murray and colleagues ([2007](#)) present strong evidence that taking time for PE does not have a negative effect on academic performance.

The first study (Murray, [2010](#)), PASS & CATCH, was an intervention study in which schools implemented an enhanced version of CATCH to achieve 60 minutes of physical activity during the school day. Students in the four intervention schools achieved the daily 60 minutes during 10- to 20-minute classroom activity breaks, structured recess, and time spent in PE classes.

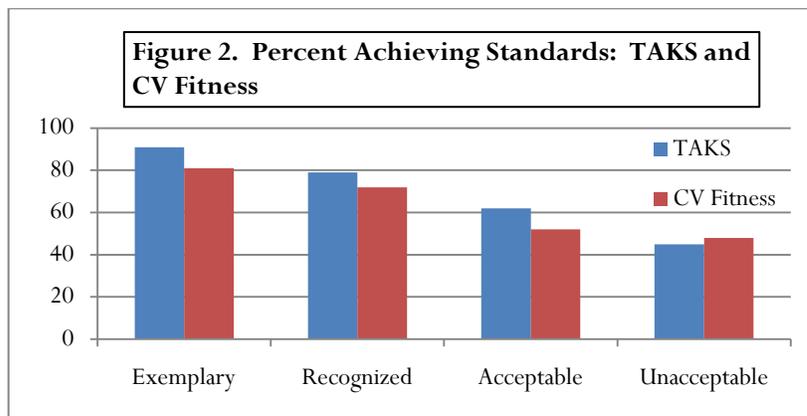
Stanford 10 math scores improved significantly more over time among students in the PASS & CATCH group compared to the control group ($p < 0.02$) (Figure 1). Interestingly, students who were not adapting well to school and were exposed to PASS &



CATCH improved their reading scores ($p < 0.01$) and math scores ($p < 0.01$). At-risk children were defined by the BASC-2 score, which classified children as “at-risk” based on an evaluation of their adaptability, social skills, leadership, study skills, and functional communication.

A second Texas study (Van Dusen, [2010](#)) examined the relationship between individually matched standardized academic (TAKS) and fitness (FITNESSGRAM) test records of 315,092 students in 13 Texas school districts (see Figure 2). In this study, fitness was strongly and significantly related to overall TAKS, math, and reading scores. In particular, cardiovascular fitness showed a distinct dose-response association with math and reading independent of other socio-demographic and fitness variables. The association peaked in late middle to early high school. This observation points to an emphasis on cardiovascular fitness, or vigorous physical activity, during PE time.

The third Texas study is from the Texas Youth Fitness Study ([TYFS](#)), which can be found in a September 2010 special supplement of *Research Quarterly for Exercise and Sport* (Welk, et al., 2010). The TYFS used FITNESSGRAM data made available from the TEA,



representing two million Texas students and over 83% of Texas school districts. Like the Van Dusen study, cardiovascular fitness was most strongly correlated with overall TAKS achievement scores, and the relationship peaked in

7th and 9th grades. The study also demonstrated that health-related fitness was positively associated with school attendance and negatively associated with a composite indicator of school delinquency.

Physical Activity and Chronic Disease. Regular physical activity is associated with multiple health benefits in both adults and children, including lower risk for some cancers, cardiovascular disease, and type 2 diabetes; weight loss or weight gain prevention; increases in cognitive functioning; decreased risk of depression; and increased bone health (Table 2). Many of the health benefits are more evident in adults, since chronic diseases, such as cancer and cardiovascular disease, develop over many years and thus are not likely to be highly prevalent among youth (US DHHS Guidelines, [2008](#); Rowlands, 2007). In addition, most of the research examining the relationship between physical activity and health outcomes has been conducted in adults rather than in youth. When children and adolescents participate in at least 60 minutes of physical activity every day, multiple health benefits accrue. Regular physical activity builds healthy bones and muscles, improves muscular strength and endurance, reduces the probability for developing chronic disease risk factors, improves self-esteem, and reduces stress and anxiety. Health outcomes associated with physical activity are dependent on the type of physical activity, the amount of time spent in physical activity, and the age of the individual (US DHHS Guidelines, 2008).

Effects of Types of Physical Activity. The different types of physical activity include aerobic activity, muscle-strengthening activity, and bone-strengthening activity (US DHHS Guidelines, 2008). Aerobic activity includes movements that involve the large muscles of the body for a specified period of time, such as jogging, biking, and swimming. Regular aerobic activity has been shown to be associated with lower risk of cardiovascular disease and type 2 diabetes. In addition, aerobic activities can be helpful in increasing fitness levels

(US DHHS Guidelines, 2008), especially vigorous activities with more intensity (Ortega et al., 2008).

Strength of Evidence	Adults	Children
Strong Evidence	<ul style="list-style-type: none"> Improved cardiorespiratory and muscular fitness Prevention of falls Lower risk of adverse blood lipid profile (e.g., high cholesterol) Weight loss, particularly when combined with reduced calorie intake Prevention of weight gain Lower risk of stroke and high blood pressure Lower risk of coronary heart disease Lower risk of early death Lower risk of metabolic syndrome and type 2 diabetes Lower risk of breast and colon cancer Reduced depression Better cognitive function (for older adults) 	<ul style="list-style-type: none"> Improved cardiorespiratory and muscular fitness Improved bone health Improved cardiovascular and metabolic health biomarkers Favorable body composition
Moderate to Strong Evidence	<ul style="list-style-type: none"> Better functional health (for older adults) Reduced abdominal obesity 	None
Moderate Evidence	<ul style="list-style-type: none"> Lower risk of hip fracture Lower risk of lung and endometrial cancer Weight maintenance after weight loss Increased bone density Improved sleep quality 	Reduced symptoms of depression

Child fitness levels, particularly cardiorespiratory fitness levels, are associated with many health outcomes, including decreased levels of total and abdominal adiposity (Ortega et al., 2008; Kim & Lee, 2009), and depression and mood (Ortega et al., 2008). Muscle-strengthening activities include those that involve resistance training, such as lifting weights. Bone-strengthening activities are those that involve a force on the bones, through high impact, jumping, or weight-bearing physical activity. These types of exercises include

weight lifting, as well as other types of activities such as jumping jacks, volleyball, cheerleading, and basketball. Both muscle-strengthening and bone-strengthening activities enhance bone health by leading to deposition of calcium onto bone, especially during childhood and adolescence, and in the presence of adequate amounts of calcium-rich and vitamin-D containing foods (US DHHS Guidelines, 2008). Bone density increases rapidly during puberty; approximately 35% of peak bone mineral density is achieved during this period (Ondrak & Morgan, 2007). *Thus, adolescence represents a one-time window in which the genetic potential for bone mineral density can be achieved through adequate nutritional intake and weight-bearing physical activity.* Both cardiorespiratory and muscular fitness levels have been found to be associated with cardiovascular disease risk factors, bone health, and improved quality of life in pediatric cancer patients (Ortega et al., 2008).

How Much Time Is Needed to Achieve Health Benefits from Physical Activity? Current recommendations for physical activity levels in children are 60 minutes or more per day (US DHHS Guidelines, 2008), although other studies seem to suggest that a longer time period per day is more likely to be optimal (Anderson, 2006). With adults, the health benefits of physical activity can be seen in as little as 60 minutes per week (US DHHS Guidelines, 2008); however, a total of 150 minutes per week of moderate intensity physical activity can be enough to substantially reduce chronic disease health risks. For obesity prevention and treatment, the amount of physical activity needed varies from 150 to 300 minutes per week in adults. In children, effects on BMI have been seen with three

The health effects of physical activity are developed and accrued over time. The maximum personal and public health benefits are achieved when physical activity is initiated during youth and is developed into a lifelong habit.

to five times per week of 30 to 60 minutes of physical activity (US DHHS Guidelines, 2008). Health effects for bone and muscle health begin at 90 minutes and continue to 300 minutes per week (US DHHS Guidelines, 2008).

Summary of Physical Activity Health Benefits. One recent study examined the health effects of physical activity in childhood and adolescence by examining four models: (1) the influence of adolescent physical activity on adult outcomes; (2) the effects of adolescent physical activity on morbidity; (3) the effects of adolescent physical activity on health; and (4) the effects of physical activity tracking over time on adult chronic

disease (Hallal et al., 2006). Adolescent physical activity is associated with prevention of breast cancer and promotion of bone health. Positive effects of adolescent physical activity on morbidity have been found with asthma (water activities) and cystic fibrosis, while health effects of adolescent physical activity were noted for bone health and mental health (e.g., depression, mood). The strongest evidence was found for the effects of adolescent

physical activity over time on adult chronic disease, although the evidence is mostly indirect (Hallal et al., 2006). A recent review confirmed the finding that physical activity tends to track over time, especially from adolescence to adulthood (Telama, 2009). Since the primary health effects of physical activity are associated with chronic diseases, which

develop over time, it is essential to begin physical activity programs in youth and support them throughout the lifespan (Telama, 2009; Rowland, 2007; Hallal et al., 2006).

Recommended Types of Child and Adolescent Physical Activity

(US DHHS, 2008).

Aerobic: Most of the **60 or more minutes** a day should be either moderate- or vigorous-intensity aerobic physical activity, and should include *vigorous-intensity physical activity at least 3 days a week.*

Muscle-strengthening: As part of their **60 or more minutes** of daily physical activity, children and adolescents should include *muscle-strengthening physical activity on at least 3 days of the week.*

Bone-strengthening: As part of their **60 or more minutes** of daily physical activity, children and adolescents should include *bone-strengthening physical activity on at least 3 days of the week.* This is particularly important for middle school girls.

Physical Activity and Texas Middle School Children. Not all physical activity is the same. The National Association for Sport and Physical Education (NASPE) recommends optimum movement during PE classes and promotes “*All children engaging in moderate to vigorous physical activity at least 50% of the time (MVPA).*” Moderate-intensity is the equivalent to briskly walking; vigorous intensity is running or playing fast games such as basketball or soccer. Physical activity performed at or above moderate-intensity can improve and maintain physical fitness. More gains in fitness and in the treatment of obesity are seen with more vigorous-intensity physical activity (US DHHS, 2008).

The 2008 Physical Activity Guidelines for Americans state that children and adolescents should engage in **60 minutes or more of physical activity** on each day of the week (US DHHS, [2008](#)). Further, the guidelines advise children and adolescents to engage in

aerobic, muscle-strengthening, and bone-strengthening physical activities. It is important to encourage young people to participate in physical activities that are appropriate for their age, that are enjoyable, and that offer variety.

According to the Center on Education [Policy](#)²⁴, when school curricula are narrowed to make time for No Child Left Behind requirements, PE is often the first to be cut. Burton

²⁴ <http://www.ccp-dc.org/>

and VanHeest (2007) cite the NASPE statistic that the portion of students attending PE daily dropped from 42% to 28% between 1991 and 2003.

Data from the Youth Risk Behavior Surveillance Survey (YRBS) and Texas FITNESSGRAM²⁵ show a picture in which middle school students are not getting nearly enough physical activity. The YRBS is a national survey conducted every two years that includes a representative sample of Texas high school students and measures a variety of health risk behaviors, including physical activity. By examining the 9th grade data, a picture can be drawn about middle students, particularly 8th graders. The percentage of 9th graders reporting zero physical activity remained the same between 2007 and 2009, from 13.5% to 13.6%. The percentage of 9th graders reporting 60 minutes of physical activity per day increased slightly between 2007 and 2009, from 29.1% to 31.8%. The percentage of 9th graders who reported not attending PE in the past week declined from 34% in 2001 to 28% in 2009.

In 2007, Texas became the first state in the union to require that public school students in grades 3–12 undergo fitness assessments and that the information be forwarded to the state education agency for summary reporting. As explained by Welk and Meredith (2008), the FITNESSGRAM test was originally developed in 1977 as a fitness report card. It consists of a six-test battery composed of the following parts:

1. Aerobic capacity, as measured by the mile run or PACER test;
2. Body composition, as measured by skin folds or Body Mass Index (BMI);
3. Abdominal strength and endurance, as measured by curl-ups;
4. Trunk extensor strength and flexibility, as measured by trunk lift;
5. Upper body strength and endurance, as measured by push-ups; and
6. Flexibility, as measured by shoulder stretch or the sit-and-reach test.

FITNESSGRAM scores are compared to a range of acceptability based on established health standards for the age and gender of the individual. If the student meets the minimum standard, she is in the “Healthy Fitness Zone” (HFZ) for that test, regardless of how well or poorly her peers have performed. Table 3 presents data from the 2009–2010 school year; like the Texas YRBS data, it portrays a vast number of children at risk for lowered academic performance, obesity, diabetes, and lowered life expectancy.

A Decade of Texas School Health and PE Policy. Texas became known nationally in the area of school PE policy after three landmark pieces of legislation sponsored by Senator Jane Nelson altered the landscape for public elementary and middle schools. The first occurred in 2001 when students in grades 1–6 were required to participate in 30 minutes

²⁵ <http://www.activitygram.net/texas/>

per day of physical activity and schools were directed to implement a coordinated school health education ([CSHP](#)) program. The second occurred over three legislative sessions (2003, 2005, 2007) when these PE and CSHP requirements were extended to middle schools. The third occurred in 2007 when FITNESSGRAM became the state-adopted annual fitness measurement tool for children in grades 3–12. Finally, in 2007 the Texas Fitness Now ([TFN](#)) grants were established.

The combination of these actions meant that by 2007 Texas had the policies, PE and CSHP programs, assessment tool, and funding to set the stage for dramatic change in school health. What follows is a brief summary of key administrative and education codes and a description of Texas Fitness Now. See Appendix 1 for a more descriptive summary.

Table 3. Texas Middle School Student Performance on FITNESSGRAM.			
FITNESSGRAM Test	% "Pass" Healthy Fitness Zone	% "Fail" Healthy Fitness Zone	Number Tested
BMI	68.0%	32.0%	651,027
Curl-Up	81.7%	18.3%	649,997
Flex Arm Hang	39.2%	60.8%	42,502
Mile Run	53.3%	46.7%	226,239
Pull-Up	53.2%	46.8%	8,993
Pacer CV test	55.9%	44.1%	426,553
Body Fat Pct.	75.9%	24.1%	41,656
Push-Up	76.3%	23.7%	603,887
Shoulder Stretch	74.8%	25.2%	418,029
Sit and Reach	63.8%	36.2%	324,638
Trunk Lift	85.9%	14.1%	636,366
Walk Test	68.7%	31.3%	364
0 HFZ Met	1.0%	99.0%	
1 HFZ Met	3.9%	96.1%	
2 HFZ Met	8.3%	91.7%	
3 HFZ Met	14.5%	85.5%	
4 HFZ Met	21.2%	78.8%	
5 HFZ Met	26.4%	73.6%	
6 HFZ Met	24.6%	75.4%	

Data obtained from TEA; 2009–2010 school year.

Texas Administrative Code: 74.32: In accordance with Texas Education Code [§28.002](#)²⁶, all students enrolled in full-day kindergarten or grades 1–6 in an elementary school setting are required to participate in physical activity for a minimum of either 30 minutes daily or 135 minutes weekly under the following conditions:

1. Participation must be in a Texas Essential Knowledge and Skills ([TEKS](#))-based PE class or a TEKS-based structured activity; and
2. Each school district shall establish procedures for providing the required physical activity that must consider the health-related education needs of the student and the recommendations of the local health advisory council.

Texas Education Code [38.013](#): (a) The agency shall make available to each school district one or more coordinated health programs designed to prevent obesity, cardiovascular disease, and type 2 diabetes in elementary school, middle school, and junior high school students. Each program must provide for coordinating:

1. Health education;
2. Physical education and physical activity;
3. Nutrition services; and
4. Parental involvement.

(a-1) The commissioner by rule shall adopt criteria for evaluating a coordinated health program before making the program available under Subsection (a). Before adopting the criteria, the commissioner shall request review and comment concerning the criteria from the Department of State Health Services School Health Advisory Committee. The commissioner may make available under Subsection (a) only those programs that meet criteria adopted under this subsection.

(b) The agency shall notify each school district of the availability of the programs.

(c) The commissioner by rule shall adopt criteria for evaluating the nutritional services component of a program under this section that includes an evaluation of program compliance with the Department of Agriculture guidelines relating to foods of minimal nutritional value.

Texas Fitness Now ([TFN](#)) Grants. In 2007, Texas Comptroller Susan Combs offered the state’s public schools and charter schools an opportunity to receive \$40 million in grants between 2007–2011 to support in-school PE and nutrition and fitness programs for

²⁶ <http://www.statutes.legis.state.tx.us/Docs/ED/htm/ED.28.htm#28.002>

students in grades 6–8. The new Texas Fitness Now grant program is aimed at middle school students attending schools where enrollment is at least 75% economically disadvantaged. (In 2009 this criterion was relaxed to include 60% economically disadvantaged.) The minimum grant is \$1,500, and schools can get more based upon their enrollment. The amount per student ranged from \$11 to \$27 per student, depending on the year of implementation. The grants have been allocated at \$10 million per year to eligible economically disadvantaged Texas public middle schools since 2007. Across the three years of TFN grant funding, 979 of 1,149 eligible schools (85%) were provided funding; among the 1,050,343 Texas 6th–8th grade students, 425,592 students were reached (41%).

Texas-Approved Middle School Coordinated School Health Programs (CSHP).

Title 2, Chapter 38, Section [38.013](#) of the Texas Education Code requires all Texas school districts to implement an approved CSHP in grades K–8. The Centers for Disease Control and Prevention define a coordinated school health program as a model that must address eight interactive components to advance student achievement by promoting, practicing, and coordinating

school health education and services to benefit the well-being of students in establishing healthy behaviors maintained through adulthood. The components must include classroom curricula, physical activity, child nutrition services, health and counseling services, and parental and community involvement. The evidence in this section provides an overview of each program and discusses the research support for the programs and implications for school legislature.

In 2005, the 79th Texas Legislature enacted Senate Bill 42 ([SB 42](#))²⁷, which requires all school districts to participate in coordinated school health training and to implement a CSHP in their middle and junior high schools. In 2007, the 80th Texas Legislature passed Senate Bill 530 ([SB 530](#))²⁸, which requires students in grades 6–8 to participate in 30 minutes of MVPA during at least four semesters throughout middle or junior high school.

CATCH and SPARK are examples of school-based PE interventions [recommended](#) by the Guide to Community Preventive Services. According to Community Guide rules of evidence, there is strong evidence that school-based PE is effective in increasing levels of physical activity and improving physical fitness. Across the country, in a variety of school, parks and recreation, pre-K, and after school settings, both programs have consistently increased student level of MVPA during PE to greater than 50%.

²⁷ TEC, §38.013, <http://www.tea.state.tx.us/rules/commissioner/adopted/1006/102-1031-two.pdf>

²⁸ http://www.tea.state.tx.us/sboe/schedule/2007/july/full_board/attachments/thur_3_physical_activity_a1.pdf

Under the direction of TEC §38.013, the Texas Education Agency must provide all school districts one or more CSHP with the purpose of preventing obesity, cardiovascular disease, and type 2 diabetes in elementary, middle, and high school students. Under Title 2, details on CSHP requirements as outlined in TEC §38.013 can be found in Appendix 1, page 45. Briefly, the CSHP curriculum must provide coordination of the CSC eight components:

1. health education;
2. physical education;
3. health services;
4. nutrition services;
5. counseling and psychological services;
6. healthy school environment;
7. health promotion for staff; and
8. family and community involvement.

In March 2007, two years after the enactment of SB 42, the TEA released the names of three approved middle school programs:

1. The Coordinated Approach To Child Health (CATCH) program;
2. The School, Play, and Active Recreation for Kids (SPARK) plus the Healthy and Wise programs; and
3. The Bienestar Health Program.

The Coordinated Approach To Child Health, or [CATCH](#)²⁹, program. CATCH was designed by child health kinesiologists, nutritionists, health educators, and pediatricians (including many Texas researchers) to improve physical activity, diet, and family health and to prevent the onset of tobacco use. CATCH was developed by teachers and has been approved by the Texas State Board of Education and the Texas Education Agency, and it has been judged culturally appropriate for use in all Texas schools. The CATCH team has published over 100 peer-reviewed papers documenting the effects of the program on Pre-K to 8th grade children. CATCH has five main components: a) PE, b) child nutrition services, c) K–8 classroom curricula, d) family involvement, and e) community involvement. The CATCH program has an impressive evidence base for improving diet and increasing physical activity and for preventing onset of child obesity among disadvantaged children and Hispanic Americans on the Texas border. The CATCH randomized controlled trial offers evidence of program effects for decreasing fat consumption and increasing physical activity among children and adolescents. Long-term follow-up results indicated that changes in diet and physical activity were maintained three years post-intervention, until the children were in 8th grade. A five-year follow-up among

²⁹ <http://www.sph.uth.tmc.edu/catch/>

56 former CATCH intervention schools indicated average MVPA over 50% of class time and vigorous physical activity at 16% of class time (Kelder et al., 2003).

CATCH has been proven effective in promoting health among inner-city, border, rural, privileged, and underprivileged children. Furthermore, PASS & CATCH (see page 17) has been shown to improve disadvantaged children's Stanford math and reading scores. CATCH augments existing school health programming by inviting local community youth organizations to participate in the process of creating a healthier school environment. The effects of community support cannot be underestimated. An El Paso demonstration study of CATCH plus community support reported a 7% reduction in the onset of overweight and obesity among children (Hoelscher, et al., 2010). A recent Travis County demonstration study of CATCH led to an 8% reduction in overweight and obesity among 4th graders (Hoelscher, et al., 2009). These are two of the few peer-reviewed published reports with population effectiveness on child obesity. Beginning in 2007, a middle school version of CATCH was developed based on four evidence-based programs: CATCH (elementary school level), PASS & CATCH, IMPACT (Jones et al., 2008), and Heads Up! (Murray et al., 2009). Each program has been evaluated separately and found to be effective in raising middle school MVPA more than 50%, decreasing sedentary TV viewing time, strengthening bone health, and improving math and reading TAKS scores.

CATCH PE was designed to be implemented by both PE specialists and classroom teachers. Students are provided with the opportunity to experience and practice physical activities that could be carried over into other times of the day and maintained later in life. Teachers receive training in methods to increase the amount of class time devoted to MVPA, regardless of the specific physical activities taught. The CATCH PE activity box includes a variety of activities, among them warm-ups, main activities (walk/run/jog and other aerobic recreation games), and cool-downs. CATCH Middle School PE includes 400 activities that build on the foundation of the elementary school years and expose middle school students to various lifetime sport-, fitness-, and recreational-related activities. The program includes adaptive activities for children with learning or other disabilities. CATCH PE has four primary objectives:

1. To engage students in MVPA for at least 50% of class time;
2. To provide students with a range of opportunities to participate and to practice skills, with the objective that all students participate in activity throughout class time;
3. To provide a positive experience for students so that they enjoy physical activity; and
4. To encourage students to participate in physical activity outside of PE.

[SPARK](#)³⁰ (Sports, Play, and Active Recreation for Kids) was originally designed in California as a PE standalone program to maximize students' participation in physical activity during class time as the means for improving their fitness, skills, and enjoyment. As a TEA-approved program, SPARK is the PE component; Healthy and Wise is the teacher curriculum used to supplement the SPARK PE resources. [Healthy and Wise](#) is a monthly newsletter (8 total) providing teachers with tips and classroom activities. Although recognized as a TEA-recommended middle school CSHP, Healthy and Wise does not have a research evidence-base and does not include program components for the CDC CSHP model (see page 25).

SPARK PE, on the other hand, has consistent evidence for raising MVPA during PE class. Each SPARK lesson includes two types of class activities: health-related fitness activities targeting the development of muscular strength and endurance, cardiovascular endurance, flexibility, and locomotor and non-locomotor skills; and skill-related fitness activities targeting the development of generalized manipulative and sport-related skills. CATCH and SPARK are very similar in their approach to improving student MVPA during PE. In fact, both programs were influenced in their development by Thom McKenzie and Jim Sallis, two of the most prominent school PE experts in the world. Both programs have the same PE goals, and both employ similar training methods and activities as described for CATCH above. SPARK PE is now available for use in after school programs, early childhood settings, and in combination with CSHP's to classroom and PE teachers for grades Pre-K through 12. Elementary school SPARK has been heavily researched and has been proven to increase MVPA during PE. SPARK also has been shown to increase physical activity outside of school, improve physical fitness, decrease obesity, and impact academic achievement at the elementary level.

SPARK is one of the few programs with peer-reviewed published results for improving PE levels in middle schools. The SPARK middle school program, or M-SPAN: Middle School Physical Activity and Nutrition, is designed to increase physical activity opportunities at school, increase MVPA in PE, and decrease fat consumption on middle school campuses (McKenzie et al., 2004). Twenty-four middle schools (approximately 25,000 students, 45% non-white) in Southern California participated in the M-SPAN randomized trial. Schools were assigned to intervention ($N = 12$) or control ($N = 12$) conditions, and school was the unit of analysis. A major component of the intervention was a two-year PE program, which consisted of curricular materials, staff development, and on-site follow-up. The intervention showed a modest improvement in student MVPA in PE by approximately three minutes per lesson. M-SPAN also showed an increase in time spent in active movement during PE class time. Effect sizes were greater for boys ($d = 0.98$; large) than girls ($d = 0.68$; medium).

³⁰ <http://www.sparkpe.org/>

The [Bienestar/NEEMA](#)³¹ is a K–8th grade program modeled after CATCH for use as a diabetes prevention program for low-income Mexican American children. Its objectives are to decrease consumption of sweet and fatty foods; increase fruit and vegetable consumption; increase physical fitness; and increase dietary fiber intake. The Bienestar/NEEMA program modified the Bienestar elementary school program for use in middle schools and added components specific to African American and Hispanic students. Both elementary and middle school programs offer components for: classroom curricula, school food service, PE, and family/community involvement.

The Bienestar Health Program has had significant [results](#) in improving elementary school children’s health in the behavioral and biological risk factors associated with diabetes in at-risk children. Results include improvement in fasting capillary glucose, fiber intake, and fitness. It is a program that can be recommended for use in elementary schools as a CSHP.

Although recognized as a TEA-recommended middle school program, Bienestar has not been formally evaluated for effectiveness with middle school students, nor has its PE program been evaluated for raising MVPA. Although the elementary school program documented positive results, and its middle school program extends successful elementary school lessons and follows a recognizable CSHP format, it’s evidence for use in middle schools is unknown.

A Review of PE Effectiveness Studies. According to the CDC Community Guide rules of evidence, there is [strong evidence](#) that school-based PE is effective in increasing levels of physical activity and improving physical fitness among children and adolescents. Among the 14 studies systematically reviewed, PE interventions most often modified curricula and policies to increase the amount of time students spend in moderate or vigorous activity while in PE classes. This can be done in a variety of ways, including: a) adding new (or additional) PE classes; b) lengthening existing PE classes; or c) increasing MVPA of students during PE classes without necessarily lengthening class time. Like the [CATCH](#) and [SPARK](#) programs described above, examples include changing the activities taught (e.g., substituting soccer for softball) or modifying the rules of the game so that students are more active (e.g., having the entire team run the bases together if the batter makes a hit).

The CDC [Task Force](#) on Community Preventive Services recommends “[i]mplementing programs that increase the length of, or activity levels in, school-based PE classes based on strong evidence of their effectiveness in improving both physical activity levels and physical fitness among school-aged children and adolescents.”³² The Task Force noted that PE programs were effective across diverse racial, ethnic, and socioeconomic groups, among

³¹ <http://www.sahrc.org/>

³² <http://www.thecommunityguide.org/pa/behavioral-social/schoolbased-pe.html>

boys and girls, elementary and high school students, and in urban and rural settings. All five studies measuring activity levels during PE classes recorded increases in the 1) number of minutes spent in moderate or vigorous physical activity; 2) percentage of class time spent in moderate or vigorous physical activity; and/or 3) intensity level of physical activity during class. The Task Force also conducted a separate literature review and reported that students attending school longer PE classes did not harm academic performance.

A recent meta-analysis conducted by The Cochrane Collaborative ([2009](#)) reported on the impact of combinations of school-based interventions focused on increasing physical activity among children and adolescents. Participants were between the ages of 6 and 18 living in Australia, South America, Europe, and North America. The report concluded that “[t]here is good evidence that school-based physical activity interventions have a positive impact on four of the nine outcome measures. Specifically, positive effects were observed for duration of physical activity, television viewing, VO₂ max, and blood cholesterol. Generally school-based interventions had no effect on leisure time physical activity rates, systolic and diastolic blood pressure, body mass index, and pulse rate.” The authors also reported that the current evidence suggests that school-based physical activity interventions may be effective in the development of healthy lifestyle behaviors among children and adolescents, which will then translate into reduced risk for many chronic diseases and cancers in adulthood. The evidence also suggests that the best primary strategy for improving the long-term health of children and adolescents through exercise may be creating lifestyle patterns of regular physical activity that carry over to the adult years.

Finally, Pate and colleagues ([2006](#)) wrote a position statement for the American Heart Association and its Committee on Sports Medicine and Fitness and Committee on School Health. It provides an excellent overview of school influence on student physical activity and concluded:

“Children and youth spend more time in schools than any other setting with the exception of their homes. Accordingly, if young people are going to engage in adequate amounts of physical activity, it is essential that schools systematically and effectively provide and promote participation in physical activity. Most schools already have programs that provide students with some physical activity, but population trends for obesity suggest that American children and youth need more physical activity than their current levels. Although parents, community agencies, and healthcare providers share the responsibility for ensuring that young people are physically active, schools are uniquely positioned to address this critical public health concern.”

A Short Review of Non-Curricular Physical Activity Programs. The intent of school-based physical activity interventions is to increase the frequency (daily), duration (60 minutes), and intensity of physical activity (moderate or vigorous, or weight bearing). Ideally, students would be guided by a qualified PE instructor to meet these goals. But this is often not the case, and non-curricular programs are used to fill the gap. Jago ([2004](#)) reviewed the evidence on non-curricular physical activity and recommended a number of promising strategies. This section incorporates evidence-based strategies with promising ideas and provides recommendations for non-curricular strategies to increase physical activity. These include:

- Daily classroom physical activity breaks;
- Organized physical activity during after school programs;
- Walking trails and active commuting to/from school (i.e., walking or biking);
- Access to fitness club-type equipment at school;
- Walking programs or “open gym” in the morning before school begins;
- Intramural sport teams for students not interested in competitive sports;
- Evening events that provide a safe place for middle school students to play; and
- Annual campus or community events to heighten community awareness of physical activity and health.

Daily classroom physical activity breaks. Also known as energizers or activity bursts, physical activity breaks are one of the most promising methods to increase physical activity at school. Most are designed to reconfigure the time that teachers devote to getting restless students to settle down, or distracted students to concentrate, and to change this “down time” into physical activity spread throughout the day. Activity breaks provide an educational benefit in that students become calmer and more focused, but also physical benefits by moving students closer to their 60-minute physical activity goal. Programs are typically flexible, allowing student activity intensity to be raised or lowered according to the teacher’s skill with classroom movement techniques. Many activity breaks have an accompanying educational theme and are tailored to the needs of math, science, reading, and social studies lessons.

Several studies have achieved up to 30 additional minutes per day by incorporating activity breaks into the teaching staff’s daily routine. [Take 10!](#) and [CATCH](#) are two programs developed by Texas researchers with a proven efficacy of increasing MPVA and improving math and reading standardized scores among elementary school children (see page 17). More recently, a pilot study from Yale found striking results from short activity bursts on upper-body strength, abdominal strength, and reduction in the need of medication for asthma and attention-deficit hyperactivity disorder (Katz, 2010).

Two key components for effective implementation of daily activity breaks is administrative support and training of all campus faculty. Training is crucial, as most teachers are unfamiliar with incorporating movement strategies in their curriculum planning and teaching practice. The estimated cost of materials and training of either CATCH or *Take 10!* is less than \$1.00 per student.

Organized Physical Activity during After School Programs. From 3:00 until 6:00 p.m., many students go to after school programs in which schools offer on-site supervision for parents who work. After school programs offer an opportunity for up to three hours of physical activity or PE instruction time. Schools have the personnel, space, equipment, and a captured market of customers in need of childcare. Texas researchers conducted a randomized study of the CATCH Kids Club and demonstrated the effectiveness of

By offering after school programs that emphasize physical activities, schools can provide 30 minutes of MVPA and make money: (1) Students prefer to move after sitting in class all day; (2) school staff can earn extra pay; and (3) such programs solve a major supervision problem for parents.

All that is needed is a willing school administration, seed money for materials and training, facilities for the program, and parents able to pay for their child to attend.

implementing a physical activity and nutrition program after school. Kelder et al. (2004) reported that children in after school programs are less enthusiastic about formal learning strategies after school, preferring activity-based games and PE. Staff turnover and inexperience leading group physical activity were two barriers to program implementation. Yet when a program is implemented correctly, students can gain 30 minutes of MVPA after school. Initial and on-going training is important for program success.

The cost of after school programs may pose a significant barrier for many families in Texas. If this can be overcome, a great variety of programs already exist that can be utilized. In addition, two important websites offer best-practice advice: Afterschool.gov and the California

Department of Education [summarize](#) tools and resources to enable after school programs to provide students with the highest quality after school physical activity possible.

Walking trails and active commuting to/from school are two strategies that are gaining attention as a means to increase student physical activity. Recent reviews by Davison (2008), Faulkner (2009), and Active Living Research (2009) report that children who walk or bicycle to school have better cardiovascular fitness than children who do not actively

commute to school. Unfortunately, the percentage of students who actively commute is low, and persuading children to start can be difficult. Both reviews state that solid evidence of program effects to recruit students and increase active transportation is limited. Nevertheless, evaluations suggest that active transportation programs are viewed positively by parents and key stakeholders and, with proper program planning, can have positive effects on children's active commuting to school. [Safe Routes to School](#) and the [Walking School Bus](#) are two public health efforts that promote walking and bicycling to school. Critical to active commuting program success are safe roads and volunteers willing to walk with the children (especially in elementary school) to ensure safety. Parents can have the desire to volunteer but often have little available time, which means that non-parent volunteers need to be recruited. Several successful programs have organized retired community members, stay-at-home parents, or other volunteers to manage these types of programs.

Some schools have solved the traffic safety issue by building walking and biking trails around the outer rim of school property and connecting the school's trails together to form a longer community hike and bike trail. School and community members in Seguin, Texas, for example, have moved forward to improve student fitness through school trail construction. In the process, they have improved the quality of life of Seguin residents and raised property values. (See Active Living Research [2010] for a [brief](#) on the economic benefits of walkable communities.) While redirecting traffic flow and constructing new roads can be very expensive and varies considerably by location, the cost of school trails is more affordable. Parent volunteers and donated materials can bring the cost of school walking trails down to less than \$15,000 per mile.

Access to fitness training and equipment at school. Schools are advised to provide physical and social environments that encourage and enable physical activity in a safe setting (Weschler, 2000). In Texas, many schools make use of portable classrooms that are placed outside on school property for class instruction. These portable units, which many school districts already own, offer an ideal space to place exercise and fitness equipment. For safety, adult supervision and instruction in safe methods of physical activity are recommended. The initial cost of new portable classrooms ranges from [\\$50 to \\$60](#) per square foot, or between 36% and 77% of the cost of a site-built classroom addition. The cost of "industrial-quality" fitness equipment ranges from \$500 (rowing machine) to \$3,000 (treadmill). To reduce up-front costs, some schools have sought used equipment from local health clubs that can be donated as a tax incentive. Other costs include equipment maintenance costs, training, and supervision of students.

Few studies have evaluated the efficacy of placing fitness equipment on-site at schools. However, it has been reported that school equipment reduces a major student-reported barrier to access to physical activity (Davison 2008). Use of fitness equipment by middle

school aged youth is recommended by the American Association of Pediatricians (AAP, [2000](#)), and two recent studies reported positive effects with the use of fitness equipment among obese adolescents (Kovács et al., 2009; Carrel et al., 2005).

Walking programs or “open gym” in the morning before school begins. Texas researchers have been developing a low-cost method for gaining an additional 10–20 minutes of MVPA for middle school students. In 2010, ten CATCH Central Texas middle schools participated in supervised use of their school gymnasium before school hours. Students were told that open gym was created to allow them to have fun while being active with their friends before school. Inactivity was not permitted, and students were asked to leave if they were not being active. (Walking the perimeter of the gym was the minimum activity permitted.) In this pilot study, average student attendance was 58, ranging from 26 to over 100 students; duration ranged from 15 to 41 minutes; and, on average, students spent 75% of the available time engaged in MVPA. The cost of open gym was very small, since existing school staff and equipment were utilized. The only cost was for promotional materials (fliers, wrist bands, etc.) to increase awareness of the open gym program.

Evening or weekend events that offer a safe place for students to socialize and exercise. Because unsupervised middle school students, congregating together, can be a recipe for disaster, many schools are reluctant to open their doors in the evening for student use. However, if issues of indemnification, supervision, and clean-up can be solved, providing access to the school can help students gain important social skills and also get the recommended 60 or more minutes of daily physical activity.

It is during the middle school years that athletic youth are separated from non-athletic youth by competitive sports. For students not inclined to join school sports, and who cannot find non-athletic group activities (like music, art, or theater), middle school can be a time when physical activity level plummets. Sports and physical activity are replaced with playing video games, visiting social media sites such as Facebook and MySpace, or experimenting with behaviors better left for an older age.

Three school-based evening or weekend programs offer non-athletic students an opportunity to socialize and be physically active.

Community service projects. Working in the community is a *physical activity*, and middle school students make great participants in community service projects. They are old enough to complete more advanced physical and intellectual tasks, yet they still enjoy the child’s sense of enthusiasm that fades as children age. Many service projects will help middle school students get the recommended 60 minutes of physical activity while gaining ownership in their community. Ideas for projects include a neighborhood clean-up, the restoration of parks or vacant lots, walking dogs at an animal shelter, planting trees,

planting school or community gardens, and assembling a “wall of honor” for school alums, native sons or daughters, or local veterans.

Intramural sports: meeting an unmet need. The CDC ([1997](#)) and the NASPE ([2001](#)) both recommend intramural sports programs at the middle school level. Nearly all Texas middle schools offer competitive, interscholastic sports programs, but the number of middle schools implementing intramural sports programs teams for students not interested in competitive sports has dwindled over the past decade. Lack of athletic ability, lack of positions on a team, a gangly or obese body, an overemphasis on winning—any of these can reduce middle schoolers’ enthusiasm for competitive sports at a time when they need physical activity most. The objective of intramural sports should be to provide opportunities for every student, regardless of ability, to participate in a sport activity that will develop skills and interest within a friendly, recreation-centered environment.

DARE PLUS or other middle school evening social programs. DARE is the most widely circulated alcohol and drug prevention program in the United States, and Texas is no exception. DARE is taught by trained police officers and often funded by local or federal resources; thus, many communities have a DARE officer. Perry and colleagues (Eischens, et al., [2004](#)) augmented the DARE school curriculum (titled DARE PLUS) with community and parent involvement, as well as extracurricular activity components. Students were given the opportunity to compete for mini-grants by planning extracurricular activities supervised by parents. The project was a success, and participating students had lower alcohol and tobacco drug use. Interestingly, although the program goal was substance prevention, most of the student-led extracurricular activities involved physical activity, which contributed to the recommended amount of 60 minutes.

Physical Education Competency Standards. Training for PE teachers plays a large and important role in the success of a PE program. School districts should place priority on hiring qualified PE teachers in middle schools to ensure student learning and achievement in the PE classroom. According to the [2010](#) Shape of the Nation report, 46 states, or 90%, require anyone who teaches PE in middle schools to be certified or licensed; and the same number of states require participation in ongoing professional development to maintain or renew certification as a PE teacher. In addition, 29 states, or 57%, allow an individual to teach middle school PE with temporary or emergency teacher certification.

The NASPE provides [standards](#) for PE professionals, both at the entry level, or candidates who recently graduated with an undergraduate degree, and at advanced levels, or teachers who have a Master’s degree in PE. The purpose of the NASPE standards is to provide a framework for quality PE teaching standards. The NASPE recommends that highly qualified PE teachers deliver a standards-based curriculum to assist children in adopting and maintaining healthy lifestyles. Highly qualified PE teachers have acquired the

knowledge and tools that improve teaching practices, strengthen the quality of PE instruction, and encourage students to achieve and maintain a healthy and active lifestyle. Table 4 provides an outline of the approved NASPE standards that exemplify the training PE teachers must receive prior to teaching children quality PE. Quality PE has been defined as both developmentally and instructionally appropriate for students. Instructionally appropriate PE utilizes best-known practices that have been developed from research and experiences in teaching children and then transferred to a program to maximize learning opportunities in the PE setting.

How Does Texas Meet the NASPE Physical Education Standards? The Texas Education Agency and the State Board for Educator Certification have identified ten certification standards for individuals to become a certified PE teacher. Table 5 outlines the Texas PE teacher training standards and links them to the NASPE national PE teacher certification standards to illustrate how the state meets national standards. Based on the Texas PE teacher training standards, Texas meets the NASPE-recommended PE standards. Although Texas does not break down the standards for entry versus advanced level PE teachers, they meet the national teaching standard requirements.

Table 4. NASPE National Standards & Guidelines for Physical Education Teachers and Educators, 3rd Edition (2008)

<p><u>Entry-Level PE Teacher Standards</u> Must meet the following standards before becoming a specialized teacher in the PE classroom.</p>	<p><u>Advanced-Level PE Teacher Standards</u> Must meet the following standards before becoming a specialized teacher in the PE classroom.</p>
<p>1. Scientific and Theoretical Knowledge: PE teachers know and apply discipline-specific scientific and theoretical concepts critical to the development of physically educated individuals.</p>	<p>1. Professional Knowledge: Advanced PE teacher candidates come to understand disciplinary content knowledge, the application of content knowledge to teaching PE, and modes of inquiry that form the bases for PE programs and instruction.</p>
<p>2. Skill-Based and Fitness-Based Competence: PE teachers are physically educated individuals with the knowledge and skills necessary to demonstrate competent movement performance and health-enhancing fitness as delineated in NASPE’s K-12 Standards.</p>	<p>2. Professional Practice: Advanced PE teacher candidates use content knowledge and pedagogical content knowledge to design and conduct appropriate learning experiences that facilitate and enhance the growth of learners.</p>
<p>3. Planning and Implementation: PE teachers plan and implement developmentally appropriate learning experiences aligned with local, state and national standards to address the diverse needs of all students.</p>	<p>3. Professional Leadership: Advanced PE teacher candidates are continuous, collaborative learners who further their own professional development and use their abilities to contribute to the profession.</p>
<p>4. Instructional Delivery and Management: PE teachers use effective communication and instructional skills and strategies to enhance student engagement and learning.</p>	<p><i>This box intentionally left blank</i></p>
<p>5. Impact on Student Learning: PE teachers utilize assessments and reflection to foster student learning and to inform instructional decisions.</p>	<p><i>This box intentionally left blank</i></p>
<p>6. Professionalism: PE teachers demonstrate dispositions essential to becoming effective professionals.</p>	<p><i>This box intentionally left blank</i></p>

Table 5. Texas and NASPE PE Teacher Training Standards

<u>Texas Physical Education Teacher Training Standards</u>	NASPE PE Teacher Standards
PE teachers demonstrate competency in a variety of movement skills and help students develop these skills.	NASPE Standards 1 and 2
PE teachers understand principles and benefits of a healthy, physically active lifestyle and motivate students to participate in activities that promote this lifestyle.	NASPE Standard 1 Advanced Level
PE teachers use knowledge of individual and group motivation and behavior to create and manage a safe, productive learning environment and promote students' self-management, self-motivation, and social skills through participation in physical activities.	NASPE Standard 1 Advanced Level
PE teachers use knowledge of how students learn and develop to provide opportunities that support students' physical, cognitive, social, and emotional development.	NASPE Standard 3; NASPE Standard 2 Advanced Level
PE teachers provide equitable and appropriate instruction for all students in a diverse society.	NASPE Standard 2 Advanced Level
PE teachers use effective, developmentally appropriate instructional strategies and communication techniques to prepare physically educated individuals.	NASPE Standard 4; NASPE Standard 2 Advanced Level
PE teachers understand and use formal and informal assessment to promote students' physical, cognitive, social, and emotional development in PE contexts.	NASPE Standard 5; NASPE Standard 2 Advanced Level
PE teachers are reflective practitioners who evaluate the effects of their actions on others (e.g., students, parents/caregivers, other professionals in the learning environment) and seeks opportunities to grow professionally.	NASPE Standards 5 and 6; NASPE Standard 3 Advanced Level
PE teachers collaborate with colleagues, parents/caregivers, and community agencies to support students' growth and well-being.	NASPE Standard 6; NASPE Standard 3 Advanced Level
PE teachers understand the legal issues and responsibilities of PE teachers in relation to supervision, planning and instruction, matching participants, safety, first aid, and risk management.	NASPE Standard 3 Advanced Level

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Appendix 1. Key Texas Administrative and Education Codes

Session Bill/Statute	Author/Code	Key Elements
77th - 2001 SB19	Nelson	
	Education Code, Title 2 - Public Education § 28.002 - (l)	Permitted State Board of Education (SBOE) to require students in elementary school (K-5) to engage in 30 minutes/day or 135 minutes/week of physical activity.
	§ 28.004 - (c)	Required each school district to establish a School Health Advisory Council.
	§ 38.013	Required CSH be provided to schools.
	§ 38.013	Required implementation of a CSH program in elementary schools by end of 2007 school year.
78th - 2003 SB137	Nelson	
	Education Code, Title 2 - Public Education § 28.004 - (l)	Required schools to “make available for reasonable public inspection” their compliance with requirements of and school tobacco policies SB19, along with vending machine access and school tobacco policies.
	§ 28.004 - (d)	Dictates the composition of the SHAC; more than 50% parents.
	§ 28.004 - (c)	Directed SHACs to recommend policies and practices that integrate school health services counseling and guidance, safe and healthy school environments, and employee wellness into their CSH program.
78th - 2005 SB42	Nelson	
	Education Code, Title 2 - Public Education § 38.013 - (a)	Expands implementation of CSH curriculum to middle and junior high schools.
	§ 28.002 - (l)	Permitted SBOE to require middle and junior high school students to participate in PE twice a week or schedule physical activity at least two semesters overall. (To date, SBOE has voted to require school districts to adopt policies that expand physical activity requirements, rather than requiring implementation.)
	§ 28.004 - (k)	Permitted SBOE to require middle and junior high school students to participate in PE twice a week or schedule physical activity at least two semesters overall. (To date, SBOE has voted to require school districts to adopt policies that expand physical activity requirements, rather than requiring implementation.)
	§ 38.013 - (c)	Required the Commissioner to adopt criteria for evaluating nutritional services to ensure compliance with Texas Department of Agriculture (TDA) policies.
	Health and Safety Code, Title 12, §1001.0711	Created a state-level SHAC at DSHS

Session Bill/Statute	Author/Code	Key Elements
80th - 2007 SB530	Nelson	
	Education Code, Title 2 - Public Education § 28.002 - (1) and (1.1)	1. A school district shall require students enrolled in K-5th grade to participate in 30 minutes of moderate to vigorous daily physical activity. 2. A school district shall require students enrolled in 6th, 7th and 8th to participate in 30 minutes of moderate to vigorous daily physical activity for at least four semesters during those grade levels and allows for scheduling alternatives as long as the student receives at least 225 minutes of moderate to vigorous physical activity in a two week period. 3. Allows exemptions for students unable to participate due to illness or disability. Also allows credit for participation in extracurricular activity with a moderate to vigorous physical activity component under rules adopted by the Commissioner.
	§ 28.004	Instructs the school district to publish in the student handbook and on the school website a statement of the policies adopted to ensure students participate in the required amount of physical activity. Also requires a statement providing notice to parents that they can request a copy of their child's physical fitness assessment results at the end of the school year.
	Education Code, Title 2 - Public Education Chapter 38 § 38.101	1. Adds Subchapter (C) to require a school district to annually assess the physical fitness of students enrolled in grades 3 through 12. 2. Allows for exemptions for districts to not assess students with a disability or other condition based on Commissioners rules.
	§ 38.102	Instructs Commissioner by rule to adopt an assessment instrument that 1) must be based on student health including aerobic capacity; body composition; muscular strength, endurance and flexibility and 2) includes criterion-referenced standards specific to a student's age, gender and physical fitness level required for good health. The tool must be utilized during the 2007-2008 school year.
	§ 38.103	1. Requires a school district to compile the results of the physical assessment and provide summary results aggregated by grade level and category identified by Commissioner rule to the Texas Education Agency (TEA). The summary results may not contain students or teachers names. 2. The results of the student performance may be released only in accordance with state and federal law.
	§ 38.104	Requires TEA to analyze school district results and identify any correlation between the results and student achievement levels, student attendance, obesity, disciplinary problems and the school meal program. 2. TEA may contract with a public or privacy entity to conduct all or part of the analysis required by this section. 3. Requires TEA to report the findings no later than September 1 of each year, the findings of the analysis to the Texas School Health Advisory Committee (TSHAC). 4. The TSHAC shall use the analysis to assess the effectiveness of the coordinated school health program provided by the school district and to make recommendations for modifications to the CSH program or related curriculum.
	§ 38.105	TEA and each school district can accept donations to facilitate implementation of this chapter.

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RGK Foundation (2010)

This report, with weblink referencing, can be accessed at the RGK Foundation website:
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