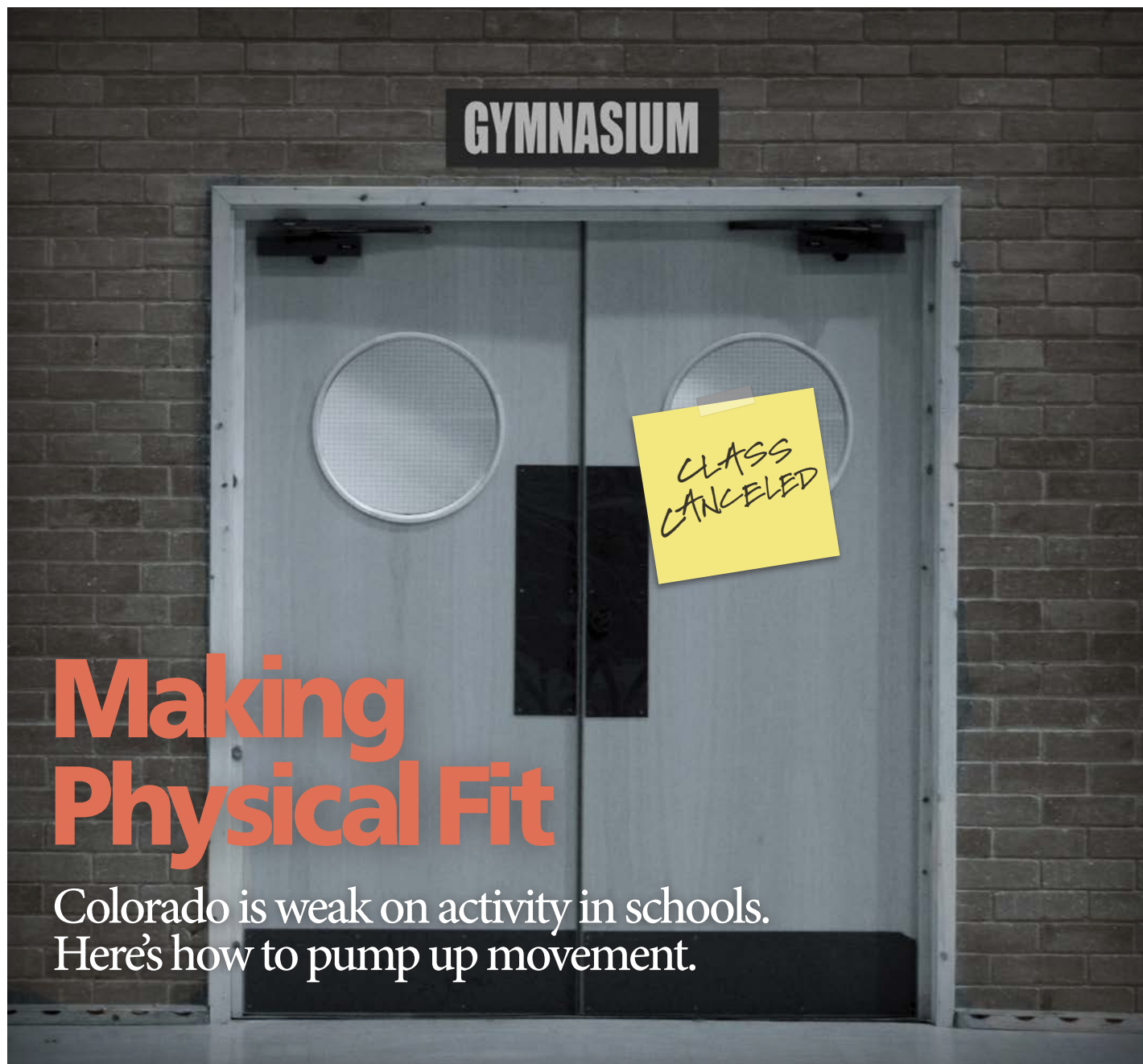


# Health Elevations



A Quarterly Journal on  
Health Policy in Colorado

Winter 2015



## Making Physical Fit

Colorado is weak on activity in schools.  
Here's how to pump up movement.

### **The Gamification of PE**

Can Jeffco use tech to get more torque?

### **Voices of the PE Debate**

From parents to A.D.s to school boards – stories from the front line.

[www.ColoradoHealth.org](http://www.ColoradoHealth.org)

HOW TO  
INCORPORATE  
PHYSICAL  
EDUCATION  
INTO A BUSY  
SCHOOL  
SCHEDULE

DRIVE-BY BUS  
PICK UP



HALLWAY  
OBSTACLE  
COURSE



STAIRCASE  
ALTERNATIVE



AEROBIC PENCIL-  
SHARPENING



REPOSITIONED  
LOCKERS



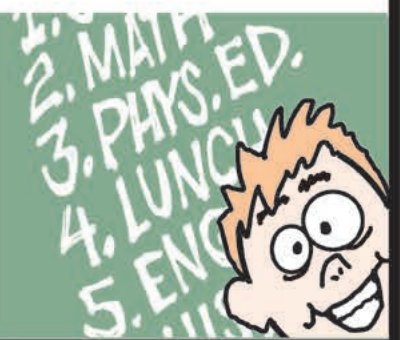
REMOTE REST-  
ROOM FACILITIES



STANDARDIZED  
TESTS ON STAIR-  
MASTERS®



OR WE COULD  
TRY A REAL P.E.  
CURRICULUM IN  
EVERY SCHOOL





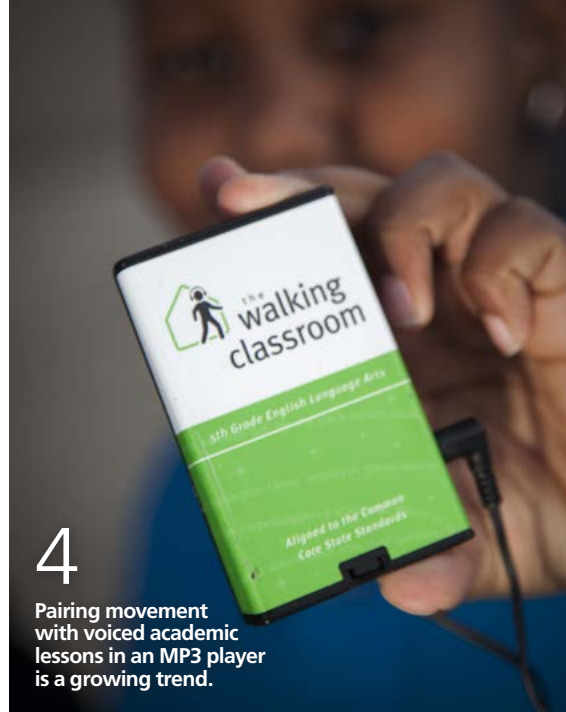
# Health Elevations



THE COLORADO HEALTH FOUNDATION  
501 South Cherry Street, Suite 1100  
Denver, Colorado 80246  
303.953.3600  
[www.ColoradoHealth.org](http://www.ColoradoHealth.org)

Winter 2015

## Contents



4

Pairing movement with voiced academic lessons in an MP3 player is a growing trend.

### 4 MAKING PHYSICAL FIT

Colorado's schools, too busy for physical activity, are falling behind the obesity curve.

### 3 WALKING THE TALK

Policy leaders need to find a way to help Colorado schools get active, says the Colorado Health Foundation interim CEO Rahn Porter.

### 9 THE GAMIFICATION OF PE

Jeffco schools are among the leaders in using tech to give PE more torque. Does high-tech movement work?

### 11 FREE PASS TO FITTER KIDS

Denver's rec pass program seems like a no-brainer.

### 12 PICTURING THE NEW PE

Photographer James Chance illustrates new approaches to getting school kids moving more.

### 15 A FAMILY VOICE FOR PE

Denver's Limon family appreciates school help but wants even more activity for kids.

### 16 THE BALANCING ACT

A large-district athletic director speaks out on whether schools can handle more demands for physical activity and education.

### 18 MOUNTAINS OF CHALLENGES

A rural Colorado school board leader, a longtime athlete herself, outlines what Delta County can and can't do for PE.

### 20 TURNING SCHOOL INTO A REC CENTER

Boulder's high schools adopt health club approaches to activating a wider variety of students.

### 22 AN ACTIVIST MILITARY

A retired Air Force general explains why physically fit students are vital to the nation's long-term health, at peace or at war.

### 25 CRAM COURSE

A statewide schools leader argues against heavy mandates that would push more physical activity at the school level.



## Online Bonus Content

VISIT [WWW.COLORADOHEALTH.ORG/JOURNAL](http://WWW.COLORADOHEALTH.ORG/JOURNAL) FOR THESE STORIES:

- Watch Colorado high school students challenge each other to higher levels of fitness in PE courses that don't look at all like your granddaddy's gym.
- View animation by Mike Keefe on some tongue-in-cheek exercise alternatives for kids who aren't moving enough.
- Follow us on Twitter at @COHealthFDN and @MBoothdenver.

# About the Colorado Health Foundation

**HEALTH ELEVATIONS** seeks to further the goals of the Colorado Health Foundation by highlighting problems that can be solved, illuminating the people who are making progress in solving them and provoking a new way of looking at complex health issues. The journal will report on and synthesize a variety of sources to provide information that can further the work of policymakers, grantees, providers and the engaged public in advancing better health care, health coverage and healthier living. Useful information presented in a memorable way is indispensable to the complex field of health policy.

**THE COLORADO HEALTH FOUNDATION** works to make Colorado the healthiest state in the nation by ensuring that all Colorado kids are fit and healthy, and that all Coloradans achieve stable, affordable and adequate health coverage to improve their health with support from a network of primary health care and community services. To advance our mission, the Foundation engages the community through grantmaking, public policy, investing in evaluation, private sector initiatives and strategic communications. For more information, please visit [www.ColoradoHealth.org](http://www.ColoradoHealth.org).

For a free subscription or to request multiple copies, go to [www.ColoradoHealth.org/materials.aspx](http://www.ColoradoHealth.org/materials.aspx).

COLORADO HEALTHCARE COMMUNICATORS  
GOLD LEAF AWARD WINNER

Interim CEO  
The Colorado Health Foundation  
RAHN PORTER

Editor in Chief  
MICHAEL BOOTH

Editors  
The Colorado Health Foundation  
TARYN FORT, LESLIE CHADWICK,  
JACLYN LENSEN

Copy Editor  
CAROL ROLLAND

Advisors  
The Colorado Health Foundation  
KHANH NGUYEN, CHRISTOPHER SMITH,  
HILLARY FULTON, KYLE LEGLEITER

Creative Team  
WELCH CREATIVE GROUP, INC.

Photographer/Videographer  
JAMES CHANCE

Illustrators  
KEVIN SEITZ, ALICIA VARGA

On the Cover  
WELCH CREATIVE GROUP, INC.

## BOARD OF DIRECTORS

**CHAIR OF THE BOARD**  
DONALD MURPHY, MD  
*Medical Director, Medicare Services*  
*Colorado Access*

BRUCE K. ALEXANDER  
*President and CEO*  
*Vectra Bank*

CEDRIC BUCHANON  
*City President, Metropolitan Denver*  
*BBVA Compass*

JEROME M. BUCKLEY, MD  
*(retired)*

EILEEN BYRNE  
*Consultant*  
*Managing Director (retired)*  
*BlackRock*

TOTI CADAVID  
*Partner*  
*Xcelente Global*

JEROME DAVIS  
*Regional Vice President*  
*Xcel Energy*

RUSS DISPENSE  
*President*  
*King Soopers/City Market*  
*The Kroger Company*

JIM GARCÍA  
*Executive Director/Founder*  
*Clinica Tepeyac*

JANET L. HOUSER, PhD  
*Academic Dean*  
*Rueckert-Hartman College*  
*for Health Professions*  
*Regis University*

JOHN HUGHES, JR., CPA  
*Retired Partner*  
*CliftonLarsonAllen LLP*

GRANT JONES  
*Executive Director*  
*Center for African American Health*

VIRGILIO LICONA, MD  
*Associate Medical Director*  
*Salud Family Health Centers*

VIRGINIA MALONEY, PhD  
*Education Consultant*  
*Dean Emerita, University of Denver*

RUTH NAUTS, MD  
*Regional Department Chief,*  
*Orthopedics*  
*Kaiser Permanente Colorado*

DIANE PADALINO  
*Senior Vice President*  
*Merrill Lynch Private Bank*  
*and Investment Group*

SALLY A. SCHAEFER  
*CEO (retired)*  
*Health Care Consultant*

STEPHEN H. SHOGAN, MD  
*Colorado Neurosurgery*  
*Associates, PC*

SARA C. STRATTON  
*Manager (retired)*  
*Qwest Pension Fund*

MARK WALLACE, MD, MPH  
*CEO and CMO*  
*North Colorado Health Alliance*

JOHN M. WESTFALL, MD, MPH  
*Chief Medical Officer*  
*Colorado Health Co-Operative*

JESSICA E. YATES  
*Attorney*  
*Snell & Wilmer LLP*

© Copyright 2015 Colorado Health Foundation. All rights reserved.

# Walking the Talk

...

## Shaping Up Our PE Policy

If you think physical activity in schools is still one strong kid climbing a rope toward the gym ceiling while 25 other kids scuff their shoes or twirl their hair, you need to read this issue.

Colorado school districts are leading a charge into 21st century physical education and activity, to infinity and beyond.

Denver kids are swarming to free rec center passes to shoot hoops and swim laps after school.

Hayden kids are dusting off old equipment shelves, ripping them out and replacing them with sunny weight rooms and community yoga.

Boulder kids are cranking up their tunes and cranking the pedals in Spin class, if they're not busy dancing to Zumba.

Colorado Springs kids are cheering each other on at the height of terrifying ropes courses and learning how to set up a tent after hiking to get to the best view.

These enthusiastic bands are led by heroes of innovation at the class level, the district level, the school board level and the citywide ballot box.

But their policy leaders are failing to keep up.

Colorado is one of only four states in the entire nation that do not mandate physical education at any grade level. Repeat: no mandate at any grade level. Colorado at the state level does not mandate academic subjects either, beyond junior-high civics – but it does test extensively in academics and hang weighty school consequences on the results.

Most parents likely assume their children are running around plenty at school. But as academic mandates pile up and schools and leaders worry about missing targets that cost them money and reputation, the opposite is often true. Formal PE instruction and informal recess or activity time are the first things to go when budgets and schedules get tight.

Why should we care? Because habits start young. And the current habits are scary – a recent Washington Post op-ed noted a third of U.S. children will develop Type 2 diabetes, taxing their personal health and plundering national health care budgets. If 11 to 14 percent of Colorado kids are now obese, that's more than 100,000 kids stumbling before even reaching the starting line.

I was an Iowa kid and later an Iowa school board president, and I know firsthand that districts already feel they are told too often what to do – and exactly how to do it. But the status quo on PE and physical activity is not working. Denver voters took it on directly in 2011, adding millions of tax dollars a year to school budgets specifically to bolster PE. Healthier Colorado, the Colorado Health Foundation and others will work with more communities in 2015 to translate popular support for school movement to a stronger local policy.

We all need to help create a movement for more movement. As dozens of families, students, experts and leaders will tell you in these pages, it's time to stop playing dodgeball with school fitness.



Rahn Porter, Interim CEO  
The Colorado Health Foundation



## The PE issue

Fighting the obesity problem in Colorado has two prime elements: changing how people consume food, and changing how they move. This edition of *Health Elevations* zeroes in on how our kids move at school, whether they are moving enough, and whether state policies are doing enough to get them moving even more. A debate looms in 2015 over how much to push school districts on physical activity, and this edition is a guide to that policy arena.

Please send your Twitter thoughts to @COHealthFDN or @MBoothdenver.

# Making Phy

## GYMNASIUM

Colorado is far behind other states in how kids move at school, making the obesity fight that much harder.





# Physical Fit

**T**his is how physical education gets done in Colorado, but only if you're very motivated. And very lucky. Find a dingy old storage room. Get the shop class to tear down the dusty storage cages and rebuild them elsewhere.

Volunteer some expert community members to lay in a new rubber floor.

Apply for grants to fill the room with shiny new exercise equipment.

Encourage a fitness instructor who just moved to your tiny town to host cut-rate classes in the new space.

Keep showing up at 6 in the morning for Pilates, until things catch on. And there you have it. Simple, right?

If you can improve PE and involve more kids in Hayden, Colo., pop. 1,634, can you do it anywhere?

Only when community effort is backed up by muscular public policy.

The Hayden School District backs up its community grit with rigorous guidelines: Elementary students get an hour of PE every day; middle school students go five days a week; and high schoolers need two physical activity credits to graduate.

Elsewhere in Colorado, though, PE success stories are as random as a game of playground tag.

Statewide mandates on how much physical activity students receive are weak and unenforced, according to recent surveys and a comparison to best practices elsewhere. While some districts, from tiny Hayden to giant Denver, have taken bold steps forward, other districts like Aurora have actually retreated on PE instruction and time.

Meanwhile the impetus to do something better for Colorado students grows with every new report on obesity, diabetes and people reaching young adulthood already sick and tired. Nearly 27 percent of Colorado children ages 2 to 14 are overweight or obese, reflecting a national trend. Nationwide, the portion of obese children – the most worrisome measure, indicating serious health issues – rose from 7 percent in 1980 to 18 percent in 2010.

A recent national study found one in four U.S. adolescents to be diabetic or prediabetic. If those unwell students grow into diabetic adults, the medical costs will be staggering: \$8.3 billion in Colorado by 2030, according to the Colorado Health Institute.

The National Association for Sport and Physical Education recommends 150 minutes a week of PE instruction time in elementary years, and 225 minutes a week for middle and high school students.

*By Michael Booth, Editor in Chief  
Photography by James Chance  
Illustrations by Alicia Varga*

A few states, like Illinois and New Mexico, mandate PE every year, from kindergarten to 12th grade. Thirteen states – Colorado is not among them – require collection of body mass index for all students.

Colorado schools are on their own with PE because state standards are weak, with no supervisory or enforcement teeth. And the last effort to make things more rigorous statewide was undercut to the point of practical irrelevance.

A state law, H.B. 1069, sets a target of 600 minutes of physical activity each month. But it allows schools to include recess time and some field trips where students spend time walking. And “allows” is the wrong word – the target is not enforced, nor is there even a mandate to collect and report information on what PE activities schools are doing.

That minimal effort at a statewide standard was a disappointing compromise for many health advocates in 2011. They had started with a legislative draft carrying far more teeth, but ran into deep opposition from school board executives and legislators favoring home rule for cities and school districts.

By the time opponents were done with rewrites, the 2011 law didn't even name a state agency with responsibility to follow up or report on the targets in later years. A 2013 I-News Network survey of the state's 10 largest school districts, comprising nearly 900,000 students, found no changes as a result of the 2011 bill and many schools using questionable fillers like field trip time to meet the standard.

The survey called the landscape “exactly the same for students across the state as it [was] before the law was passed.”

The state Department of Education does not take a position on the effectiveness of that bill, or whether PE standards should include more mandates.

What the state says it is doing is finishing up an effort to help PE leaders write curriculum that meets best practices for instruction and learning, and to disseminate that curriculum to any districts that want it.

Collaborative teams are writing at least one set of courses for each grade level, and in the spring they will be ready to post that curriculum for grades K through 5 on an online repository. More grades will be added later, said Phyllis Reed, content specialist in the state Office of Standards and Instructional Support.

“Obviously core curriculum is a hot topic, but what we wanted was to have health and wellness resources elevated to the level of traditional academic curriculum, like math or literacy,” said Sarah Mathew, director of health and wellness at the Department of Education.

Colorado's only stab at a statewide survey of current PE practices came through the Department of Public Health and Environment, which was



*Heart rate monitors for a Boulder ‘Scrabble fitness’ class are part of a new technology-friendly school movement.*

trying to see if local districts benefiting from federal child nutrition spending were following requirements for Local Wellness Policies. The summer 2014 survey reviewed 41 districts holding 81 percent of the state student population.

Only five of the districts had language requiring or encouraging specific minutes in PE class. And only seven districts had written policies requiring or encouraging qualifying criteria for PE staff.

Burgeoning efforts will now see if giving up the hope of top-down, Legislature-level action in favor of community-level change can raise the bar for PE in Colorado. This year Healthier Colorado, a 501(c)(4) political advocacy group seed-funded by the Colorado Health Foundation, will work on policy and funding changes for PE in a handful of school districts. A detailed opinion survey of multiple stakeholders found a wider push for state-level mandates would be futile at this political moment.

Creating more urgency for the local push is the increasingly obvious fact that while obesity in kids is rising, their activity levels are going in the other direction.

A recent Centers for Disease Control and Prevention missive noted that U.S. government recommendations are for youths ages 6 to 17 to get at least 60 minutes of physical activity a day. But in 2013, only 27 percent of high schoolers were meeting the goal, and only 29 percent went to PE classes daily. Even more worrisome, more than 15 percent of high schoolers hadn't done 60 minutes of activity on any of the previous seven days before the survey.

And the steep drop-off in the 1990s was clear: In 1991, 42 percent of high school students went to PE classes daily; by 1995, that number had fallen to 25 percent, and barely recovered to 29 percent by 2013.

## Denver Making Strides for More

To see the challenge facing PE boosters in Colorado, it's instructive to dive into a large, resource-rich district like Denver Public Schools that is consciously working on the problem – and then to see how far even places like Denver still have to go.

DPS, with more than 87,000 students, can track time in PE down to the minute for each classroom in every school. Denver's elementary classes are currently getting 45 to 90 minutes of PE instruction a week, with an average of 74 minutes a week in two days of classes.

Add the recess time that Denver students all receive and the district is easily meeting the targeted 600 activity minutes a month (about 30 minutes a school day) established by 2011's H.B. 1069. (Remember that the loose state standard also suggests dubiously movement-oriented activities like field trips can be included in the target number.)

Middle school may be the trickiest age, according to DPS PE chief Eric Larson. PE is an elective in middle school, and with recess movement long since passe at that age, some students aren't getting much activity. "Fifteen to 20 percent of our students do not take PE at all in middle school," Larson said. "They fall through the cracks because of electives."

At DPS high schools, one year of PE is required to graduate. But it's at best a leaky standard. Students can get waivers through involvement in marching band, ROTC or an athletic team.

Denver, though, is taking venturesome steps to improve its students' chances at vigorous exercise.

City voters approved new money for school PE as part of the larger 3A and 3B vote in 2012. The package raised homeowners' mill levy for property



Denver students, above, learn compass skills in an orienteering fitness class.

Below, Aurora students listen to class lessons while walking with an MP3 player.

taxes to restore arts and PE time, bolster preschool and kindergarten enrollment, and support other items. (The average homeowner pays about \$140 extra each year to fund the package.)

For PE in Denver, the new funding comes to \$60 per student each year, with a set minimum of \$33,000 added to each school's budget specifically for better PE.

"One of the things we'll be pushing for is for schools to open up and be innovative in how they use those funds," said Van Schoales, a longtime education reform advocate and CEO of A+ Denver, which backed the spending votes. Schoales is chair of the committee helping oversee the mill levy spending.

The bump in the mill levy provides \$6 million a year for PE funding; \$5.5 million goes directly to full-time-equivalent staff salaries and \$500,000 for new equipment. The salary money will allow, for example, a school to go from a half-time PE position to a full-time slot. The equipment dollars work out to \$5 per pupil each year, a big difference for many schools. Where before an entire school's equipment budget might have been \$300 to \$700 a year, it will now receive about \$2,500 for new gear, Larson said.

"In the long run, if you put a ball or a jump-rope in every student's hand, you're going to have a lot more vigorous movement" in class time, he said.





...

**"In the long run, if you put a ball or a jump-rope in every student's hand, you're going to have a lot more vigorous movement."**

*Eric Larson, Denver Public Schools PE Chief*

...

"We've seen a huge impact with the mill levy funds," Larson said. "Seven or eight years ago we had nine elementary schools without PE. We don't have any without it now."

Now that schools are into the second year of spending the PE money, a prime goal is to agree on districtwide metrics that can measure the quality of the new efforts, Schoales said. Such scorecards can help spread best practices and assure the community on how the funds are spent.

A public vote, however, can't put more minutes in the day. That remains a major roadblock for PE leaders like Larson. "The day's only so long," he said.

By the numbers, it looks like this in Denver:

- Before the mill levy, elementary students averaged 54 minutes of PE a week.
- After the mill levy, they are 74 minutes – a major improvement.

However, Larson believes the resources are there to get to 90 minutes, but not enough PE classes can be crammed into the current schedule to reach that target.

And despite that level of optimism, national fitness association standards recommend 150 minutes a week, more than twice what Denver is doing now.

Aurora Public Schools, meanwhile, is still dealing with a PE setback that took the district in the opposite direction.

In 2011, school leaders worried their relatively high number of electives were crowding out academic subjects needed by some students to meet state of Colorado higher education entry requirements in core subjects like math, science or languages. Aurora's 1.5-credit PE requirement for high school graduates was at risk, and supporters took to board meetings to protest.

They lost. While PE courses were kept, the specific credit requirement for PE was folded into a group of elective requirements, meaning students might choose art or music, but lose out on PE altogether by graduation.

"It was a big shot in the gut when that happened," admitted Kenny Webb, coordinator for PE and the Arts at Aurora Public Schools. "But I think we've

done a good job rebounding and seeing where we can increase physical activity with students." Webb cited public-private partnerships with programs like 5th Gear Kids, which pairs with the Anschutz Health and Wellness Center.

It should help that the state has rewritten its education standards to more closely knit health course work with physical activity and education, Webb said. That encourages programs like Gateway High School's requirement for freshmen to take a "health and activity for life" class, he added. They get health information like avoiding sexually transmitted diseases while also creating a nutrition and fitness plan tailored for their own needs; they also work on lifetime sports tips and techniques.

"Hopefully the board will see that as a need and bring back at least one requirement for PE and health," Webb said.

## Bucking a Rich History of PE in the U.S.

The concept of leading young people toward better physical fitness did not begin and end with a dodgeball game and a burst of indignant tears. College-age students in America began exercising at or near their institutions as early as the 1820s on the East Coast, when broad-minded instructors added German-inspired "Turner" (gymnastics) movements to the usual roster of Greek, Latin and philosophy courses.

In the late 1890s and early 1900s, Jesse Bancroft had the position of "director of physical training" for Brooklyn Public Schools, according to the "History of Sport and Physical Education in the United States." By 1917, a few large cities had "model" PE programs.

Public school emphasis on PE, as with art and other "special" subjects, was hit hard by cost-cutting in the Depression era. Systematic PE instruction got a boost again in the 1950s when a new set of international testing results showed American children behind European children in fitness. The rapid spread of U.S. suburbs and their resource-rich school districts in the 1960s spread demand for PE.

In the decades since the 1960s, educators and state legislatures largely agreed that in theory, PE was an integral part of a student's overall human development. But in practice, PE was often the first thing cut in the periodic recessions eroding school spending. Major progress was made integrating physical programs by race, gender and accommodation for disability; but many school districts declined to make the agreed-upon curriculum payoff through dedicated instructors and specified class time. Practical results eroded further in the most recent two decades, as meeting state academic standards became the overriding spending and scheduling priority for struggling schools.



### Four Squares

Colorado is one of only four states without a PE requirement at any grade level. The others are Alaska, Michigan and Wyoming.

# Focused and Fit

Students' fitness showed growth when grant funding provided more focused PE instruction and curriculum.

Students who scored **12 pushups** in baseline testing last year jumped to **14.3** after more classes.



*Students in rural Hayden helped clean out a storage room for a more inviting fitness facility.*

## Proof So Far?

Communities that strive to improve PE for their students have managed to make progress in fitness, according to a new evaluation of a major series of grants by the Colorado Health Foundation.

In the past four years, the Foundation has put more than \$11 million into 289 schools in 41 districts across the state to improve PE instruction and participation.

One goal of a PE overhaul is to increase the percentage of class time students are in “moderate to vigorous physical activity.” Reform supporters want to see good instruction in activity and technique, but they also want to see students actually moving, not just standing or sitting listening to a lesson or talking among themselves.

A third-party evaluation of the grants found the schools had a significant improvement in activity level, with the elementary schools rising from movement time of 38.4 percent on average to more than 58.2 percent in year three. The evaluation also found a desirable decrease in teacher time spent on class management and a decrease in sedentary time – sitting or lying down.

Students at the grantees' schools also posted better fitness scores over time in five out of six testing areas, including exercises like pushups.

However, there was not a substantial change in the number of minutes the average student spent in PE classes, according to the evaluation.

In a look at schoolwide impacts from the grants, the evaluation found leaders reported the ability to buy and maintain better fitness equipment, and greatly improved curriculum for PE classes. But the review did not find schools taking advantage of the deeper knowledge to make big changes in their PE policies, such as widening PE requirements for all students or adding significant class time.

Many evaluation experts warn against a common trope on the need for more PE. Advocates of expanded programs like to cite an increase in academic success as another reason – along with fighting obesity and achieving fitness – for more schools to create a PE mandate.

Whether academic achievement increases through PE is not quite so clear, according to the CDC. About half of the dozens of studies seen by the CDC in a major 2010 literature review showed a positive association between physical activity and student performance or behavior. But nearly the same number of studies showed no association.

## Getting It Done in Hayden

With all the challenges placed before any attempt to improve PE in schools, how does a limited-resource town like Hayden get it done, even while other districts in Routt County have failed to step up and add PE instructors in budget expansions or put more backbone in their PE requirements?

Force of personality still goes a long way, argued Barb Parnell, the LiveWell community coordinator for northwest Colorado.

Shawn Baumgartner is a team coach and PE leader for Hayden who has taken on much of the work to make PE a community priority, Parnell said. Instead of giving up on finding a community workout room, Baumgartner and his team “turned a gross old storage room into a fitness room,” as a start, Parnell said.

“It was huge with students,” Baumgartner said. “We’d have workouts this summer with 35 to 40 kids, which we’ve never had before.”

“He got the district to scrape it together,” Parnell said. “He just nickel-and-dimed things.” •





# Jeffco Schools and the Gamification of PE

By Roger Fillion  
Photography by James Chance

“A lot of people blame technology for the obesity problem we have. I also think it could be part of the solution.”

Ted Vickey,  
senior consultant on fitness technology,  
American College on Exercise

Conifer High School physical education instructor Jeanie Boymel told the kids in her morning PE class to grab pedometers, as usual. But then she alerted them to be ready for an out-of-the-ordinary workout, beyond the typical indoor and outdoor activities and sports.

“Today’s activity is ‘Can you make it as a Marine?’” she told the students. “The Marines are coming in.”

A Marine sergeant stood ready to lead a “boot camp” to give the kids an endurance workout. The nearly 30 boys and girls snatched pedometers from a plastic box on the floor, attached them to their shorts and were soon running as well as doing pushups, squats and other activities.

It’s part of a plan. Jeffco Public Schools is wagering that a combination of technology – in this case, pedometers and computers – physical activity and fitness will build stronger bodies and minds. The state’s second largest school district recently introduced its SPARK Initiative to encourage kids to engage in greater physical activity during PE and special before-school programs.

“Physical activity does improve learning,” said Emily O’Winter, healthy schools coordinator for Jeffco schools.

Can making exercise fun with the use of technology improve fitness and, in the case of Jeffco, grades? It’s a question playing out in Colorado and across the nation amid a proliferation of exercise and fitness apps like Fitbit and Zombies, Run! A growing number of these apps use games to increase physical activity – hence the expression the “gamification” of fitness.

Results are mixed. But advocates contend the idea holds promise.

“A lot of people blame technology for the obesity problem we have,” said Ted Vickey, senior consultant on fitness technology at the San Diego-based American College on Exercise, the largest national nonprofit promoting health and fitness. “I also think it could be part of the solution.”



That’s the belief in Jeffco schools, which introduced its SPARK Initiative at five schools in the spring of 2012. Fourteen participate today. SPARK is a national initiative creating and disseminating integrated PE curricula at all ages and following up with research on the program’s effectiveness.

All Jeffco elementary schools teach PE one-third of the year, typically every third day. There is no across-the-board PE requirement at Jeffco middle schools; some schools require it while others offer it as an elective. High school students are required to complete a semester of PE or health to graduate. Waivers are allowed, but the use varies among schools.

Under the program, students are fitted with pedometers. They are enrolled in a physical activity class in which they participate in 20-plus minutes of moderate to vigorous physical

*Conifer students in Jeffco schools wear pedometers as they play games like pickleball.*

activity. So-called MVPA is considered 120 steps a minute. Afterward, the students insert their pedometers into docking stations that record their MVPA numbers in a computer database.

In some cases, the students’ schedules are adjusted so that the class directly following the SPARK activity is language arts or math – the hope being that students will be energized, focused and better prepared to learn in these classes.

O’Winter noted that research has demonstrated that exercise helps the brain in several ways, including increased brain cell growth, fewer behavioral problems, improved attention and lower stress by way of a decrease in cortisol.

“True hard science has shown that physical activity can impact indicators of academic achievement,” O’Winter added.

Based on an unscientific sampling of Conifer students, the results are mixed.

“My grades have improved a lot,” said Chris Murphy, a junior. This is his third year in the SPARK Initiative. He flunked three classes during his freshman year and one in his sophomore year. Currently, he is pulling up the one F he has had so far this year.

“It helps me stay awake and stay focused,” Murphy added.

But sophomore Tyler Schoder doesn’t think the added activity has translated into higher grades.

“It doesn’t seem to help me in class,” he said. “I’m getting the same grades as in middle school, and I didn’t take gym in middle school.”

Through the use of pedometers and computer technology, Jeffco is compiling more complete data to match students’ level of physical activity with their academic performance and behavior.

**According to the school system, preliminary findings show that exercise promotes:**

- Increases in letter grades, test scores and homework completion.
- More engagement and participation in class.
- Positive interactions and relationship building with peers and/or teachers.
- A belief among students in their ability to complete tasks.

The SPARK Initiative is based on the work of Harvard psychiatry professor John Ratey, who authored the 2008 book “Spark: The Revolutionary New Science of Exercise and the Brain.”

“A fast-paced workout boosts the production of a protein called brain-derived neurotrophic factor,” Ratey told USA Today in a 2008 interview. “I call it Miracle-Gro for the brain, and physical activity is one of the best ways to release this brain-nourishing protein.”

Jeffco isn’t the only district taking such an approach. In the St. Vrain Valley School District north of metro Denver, Red Hawk Elementary built physical activity into its plan from day one. Using a rotating daily “movement calendar,” students gain 40 minutes of moderate to vigorous activity on a daily basis – on top of PE class and recess.

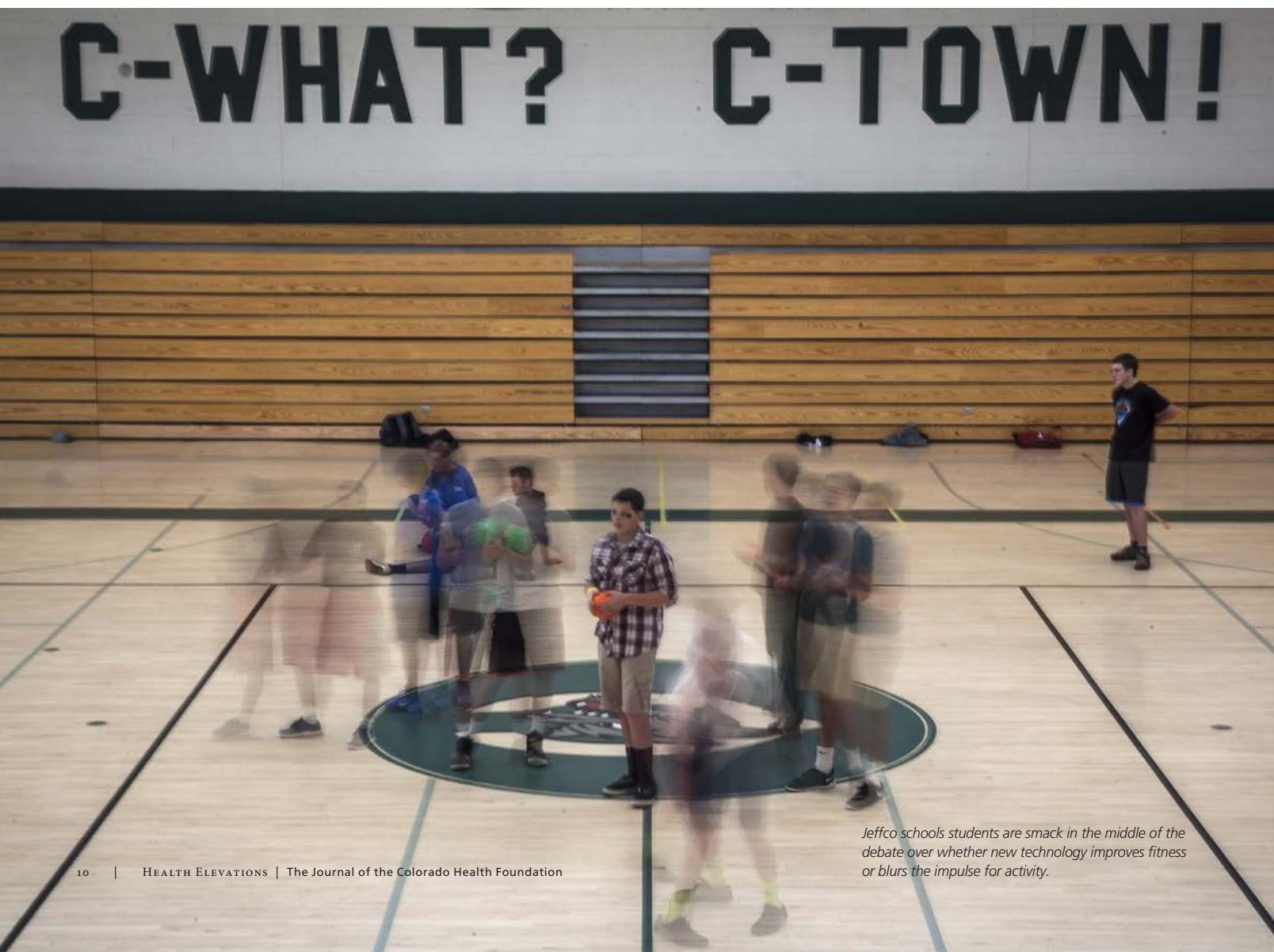
Near Chicago, the high-achieving Naperville Community Unit School District spearheaded several PE practices Ratey advocates – and has garnered publicity for the effort.

These approaches dovetail with the explosion in tens of thousands of health and fitness apps on the market today.

But do they work?

Researchers at Brigham Young University set out to answer that question in a study that appeared in the Journal of Medical Internet Research.

“It’s just been assumed that gamified apps will work, but there has been no research to show



*Jeffco schools students are smack in the middle of the debate over whether new technology improves fitness or blurs the impulse for activity.*





*A Conifer student checks in with an instructor to see fitness progress.*

that they're effective for people long term," Cameron Lister, lead author of the study, said in a news release. Lister and a colleague studied more than 2,000 health and fitness apps and found most of the popular ones relied on gaming.

After downloading more than 100 apps and using them personally, the researchers remained concerned that rather than motivate people,

gamification could do just the opposite over the long run – because it doesn't focus on actually changing people's behavior. Instead, it merely offers users short-term rewards such as digital badges.

"It's like people assuming that you hate health and you hate taking care of your body so they offer to give you some stuff in order for you to do what they want you to do," Lister said in the news

release. "But really, you should intrinsically want to be healthy and be engaged in healthy activity."

Similarly, a 2009 study from the American Council on Exercise found that the fitness benefits of Nintendo's Wii Fit "revealed underwhelming results, with the exercise intensity of most exercises proving to be milder than expected."

Findings like those may give pause to some PE advocates who would like to see greater use of technology in fitness. At the same time, early results from Jeffco's SPARK Initiative are encouraging – although more detailed data will be needed for a thorough evaluation.

Either way, new ideas are being employed to get all ages to be more physically active. Back in Jeffco, O'Winter agreed that it's good to get creative when it comes to promoting physical activity. "We're excited to do what it takes," she said. "We just want to get kids moving – that's my bottom line." •

# Does a Free Pass Open Doors for Fit Kids?

By Roger Fillion

One of the biggest recent innovations in Colorado health and fitness is the brainchild of a 12-year-old girl.

In 2011, Maggie Trout approached Denver Councilman Chris Nevitt and pitched the idea of giving Denver kids a card to access city services and programs.

Denver Mayor Michael Hancock bought into the idea and the MY Denver Card was born. Today, the MY Denver Card gives all Denver students ages 5 to 18 free, year-round access to the city's 23 recreation centers and 29 pools. Kids can swim, play basketball or volleyball, learn about healthy cooking and nutrition, and much more. The card also serves as a Denver Public Library card. Rec center access for kids previously cost \$50 a year.

More recently, the benefits of the MY Denver Card increased to provide access to some of the city's art, culture and science institutions. Nine organizations are participating, including the Denver Art Museum, the Denver Museum of Nature & Science and the Denver Botanic Gardens. Cardholders enjoy free or discounted entries to the venues.

The MY Denver Card program was funded after Denver voters approved ballot measure 2A in November 2012, allocating \$1.5 million to pay for the program from the overall \$68 million generated for the city's coffers.

The first cards were issued in March 2013. By the end of September 2014, 61,000 youths had registered for the card; 105,000 kids are eligible cardholders.

"We didn't expect to be at 61,000 this soon," said Erin Brown, executive director of Denver's Office of Children's Affairs, which provides leadership

to support city agencies sponsoring the card along with Denver Parks and Recreation and Denver Public Library. The expected enrollment was penciled in closer to 50,000 by the end of September, she said.

With the addition of the nine cultural institutions, officials project that 70 percent of Denver's eligible youth will register for the card by the end of 2015. Now the trick is to link rec centers with physical education on how to use the available space – otherwise, the passes may be equivalent to giving a student a book without teaching them how to read.

So far, according to Brown's office, 54 percent of the kids have used the card regularly for entry into Denver parks and rec centers. Officials hope to boost use of the rec centers by 25 percent in 2015, owing to improved tracking software systems, more accurate usage reports and outreach efforts.

Before extending the program to cultural institutions, kids used the cards mainly for access to outdoor pools, rec centers and libraries during school breaks – especially in summer.

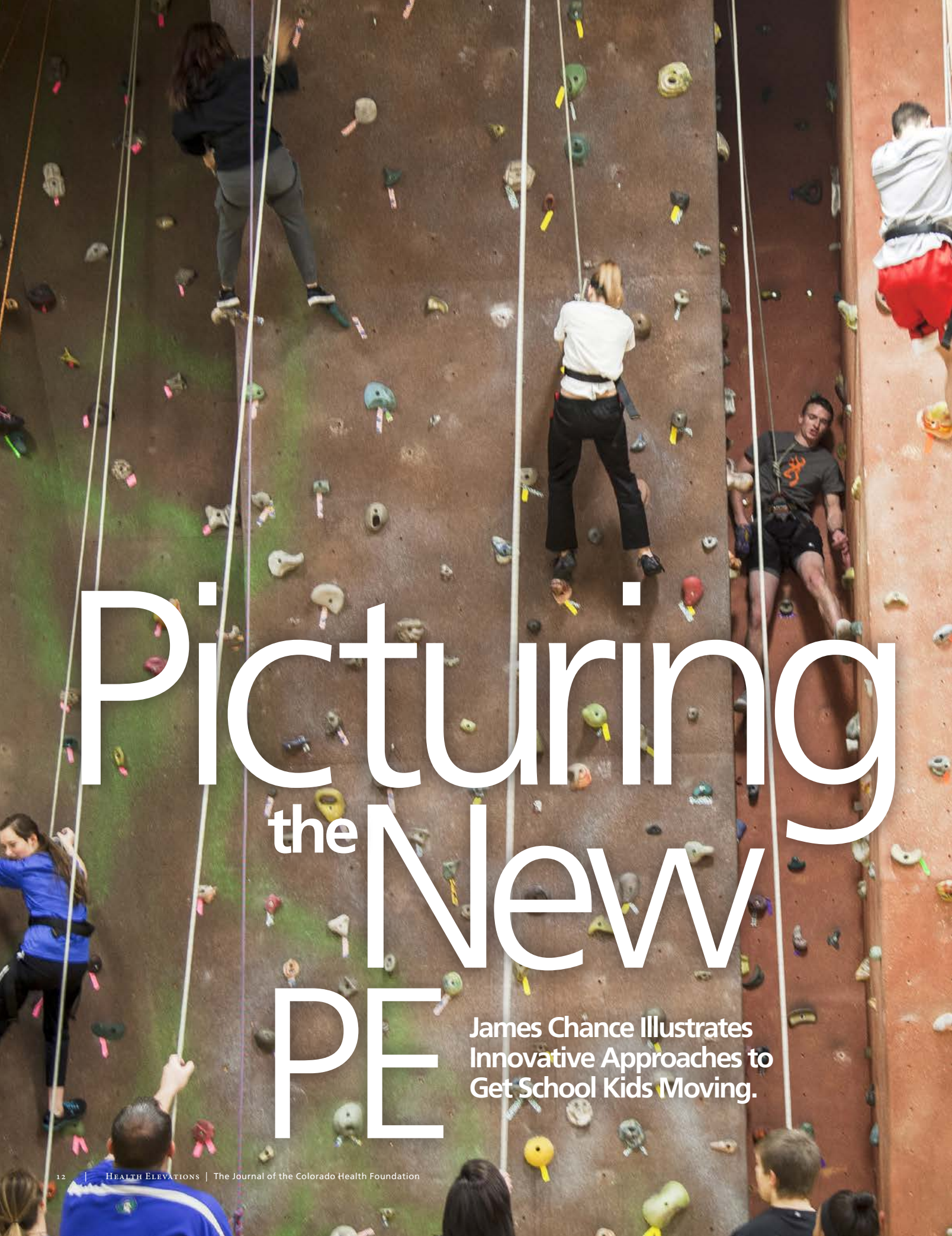
Brown said it is too early to determine why some kids haven't used the cards. "We've not done a deep enough dive to figure out why some kids aren't using them," she said.

Other cities that have deployed similar programs include Boston and Washington, D.C. But Brown said it is hard to compare Denver's program with the other cities.

"There are not many metro areas that have as many rec centers as Denver," she said. •







# Picturing the New PE

James Chance Illustrates  
Innovative Approaches to  
Get School Kids Moving.





Many high schools in Colorado are experimenting with outdoor physical activity classes that reflect the hobbies of weekend warriors: snowshoeing, rock climbing, setting up camp, bicycling and more. Denver Public Schools' PREP Academy students, above, learned orienteering – involving compasses, map-reading and route-finding – in a grant-funded activity with instructor Tim Burke. Students Trazell Adams, center, and Cheyenne Angel, right, took on the challenge. They've also tried snowshoeing and geo-caching. One theory of physical movement is that it can promote innovative learning of academic material as well as

improve fitness. Below, Aurora Frontier Elementary fifth-graders Deborah Muluken (left) and Serene Seang use MP3 players to listen to audio classes while they walk the school grounds. The students listened to a course on Shakespeare as they walked. Inset, one of the pedometers that Conifer High School students wear that tracks their progress toward movement goals, one of many ways technology is altering traditional PE.







*Coaches, teachers and students alike are constantly collaborating in Colorado on ways to make physical activity more engaging and relevant to students' lives. Above, Denver Public Schools teachers posed during a PE training session at South High School, clockwise from upper left: Justin Olson, Jennifer Danielson, Brittany Penn and Jeremy Alvis. In other communities, town and school come together for solutions. At right, students work out in a former storage room in Hayden School District, cleaned out, spruced up and now heavily used by all ages. Below, Boulder's Fairview ninth-grader Kate Boyd sprints for Scrabble-style letters to form words on the other side of the gym; losers have to do more "cross-fit."*





# family VOICE for more PE

## Parents See Blocks to Keeping Kids Active

By Elise Oberliesen  
Photography by James Chance

**W**hile kids battle obesity and the teasing that goes with it, parents question whether their communities and schools are doing enough to keep kids moving. Turns out, about 11 percent of kids in Colorado ages 2 to 14 are obese and a comparable percentage are overweight, according to the 2015 Colorado Health Report Card.

That's why Denver families like Lorena Limon and her husband, Isabel, help their kids find plenty of ways to incorporate activity – at home and school.

In nice weather, Lorena's older sons, Miguel, 12, and Beto, 14, head outside and rally up kids for games like pickup football. They trot off to a nearby elementary school, just a 10-minute walk from home. While Lorena encourages their enthusiasm to play outside and score touchdowns, she still worries about safety.

"There's a busy road, and the streets are not well lit at night," she said.

And with nearby bars strung along busy streets like Federal Boulevard, the last thing she wants is her kids walking home from a game of football while navigating busy crowds that local bars tend to attract, she said.

### School Sports

Beto, a ninth-grader at Abraham Lincoln High School, plays on the tennis team, while Miguel, a seventh-grader at Grant Beacon Middle School, plays on the soccer team. Both programs are inexpensive alternatives to other community youth sports in town, Lorena said.

While she acknowledges that Miguel's school offers activities that incorporate fitness into his day, Lorena still wants to see more.

"Our middle school offers soccer and football, but I'd like to see tennis, basketball and baseball, too," she said, adding that basketball is not offered to seventh-graders, a factor that excludes Miguel.

Clearly, Lorena's kids stay fairly active compared to kids who dislike sports, dance and other activities. But it doesn't stop her from worrying about her neighbors – kids in her community who simply won't make the cut on their favorite team.

In part, the problem stems from supply and demand – too many kids and not enough spots in sports – plus a few other exclusionary factors. With only one team per sport at Miguel's school and small team rosters, Lorena said, about 20 kids might make the soccer team. And that's not enough.

She points out another flaw in school sports programs, something rarely discussed: equity. Only the fittest, smartest and most skilled players make the teams, she said. And it leaves far too many kids hanging in the balance when their names don't show up on the team roster.

"What about those kids? Those who are struggling with grades or aren't exactly fit? That's why they don't get picked," Lorena said. "Those struggling



Denver's Limon family works hard to find physical outlets but can be stymied by neighborhood and school realities.

students should have a chance, too, and they would really benefit from being on a team or playing that sport in a more structured way."

She suggests adding multiple teams so more kids can participate.

But there is good news. Kids at Miguel's school stay active Monday through Friday thanks to gym classes that last about 60 minutes. According to Miguel, teachers don't use fancy phone apps or tablets that prompt kids to get moving, yet his teacher gets these kids to use their heart muscles regularly.

"We play football, soccer, basketball and do some exercises like pushups and jumping jacks," he said.

Occasionally they play dodgeball during gym. Surprisingly, even some of the girls enjoy that game. But most prefer volleyball, Miguel said.

### Creative Moves

Lorena wants schools to incorporate simple solutions like a "one-minute exercise break" at the end of each class. She demonstrated active breaks as she bent her knees and lowered herself to a squat position. Then she alternated a 10-second squat with 10 seconds of jumping up and down. She repeated this sequence, increasing the intervals to 20 seconds for each squat and jump set.

Lorena learned about activity breaks through social media channels. She follows a Florida-based nutritionist on Facebook who posts simple tips that boost activity. Lorena's youngest son, Yinsen, 4, often joins her at home for activity breaks.

### Community Offerings

Because public education only goes so far with extracurricular activity, the family looked outside the school for more options. But when they registered Miguel for soccer, it came with a few unexpected roadblocks.

"The cost was a barrier and it was too far from our home," Lorena said.

A 20-minute commute by car from soccer practice to their home ended up taking three hours, she said. The family relied on public transportation, which meant Miguel sometimes arrived home at 10 p.m. Eventually, planning evening transportation for sports proved too difficult.

"Some buses stop running at 7 p.m.," Lorena said.

But small changes like expanded bus routes would go a long way toward helping families who want to use local activity programs outside school, she said.

To increase daily activity and active play for their kids, Lorena and Isabel recognize they must play an active role. That's why she makes sure Beto and Miguel turn in their homework and maintain good grades – so they don't get cut from their sports teams. Her husband, a former black belt instructor in taekwondo, spends time teaching Yinsen about martial arts and kickboxing, something the two enjoy together. •

By Michael Booth  
Photography by James Chance

# Balancing Act

## A Big-School Athletic Director Seeks Variety

**Editor's note:** Dave Eichman is the athletic director for Colorado Springs School District 11, one of the older school districts in the state. Eichman's district serves about 30,000 students and encompasses some 60 schools, including four large high schools. As an A.D., Eichman oversees the district's highly competitive intramural sports, but also is responsible for districtwide efforts in physical education and activity at all levels.

### What is district policy in terms of where you can have physical education on a regular basis at different levels, and how has that changed in the past few years?

In elementary, there is state law that you've got to get 600 minutes a month. That hasn't changed for us – we were already meeting that. It is a challenge at some schools, especially some of the lower socio-economic ones where we have to implement a lot of programs to either catch kids up or keep them at grade level. Any time you add other programs, it competes with everything, and a lot of times PE is the easiest one to cut or pull people out of. With state testing and performance rating, it's all about reading and math.

### And middle school or high school?

At the middle school level, PE is not required in our district, but probably 80 percent of kids end up taking it. It's a good course to balance schedules. We do have a much larger intramural program as well as athletic programs at the middle school level. And at the high school level, it's a graduation requirement: They have to have a year of PE and a year of health.

### And when you're deciding whether students need time in academics or in PE, one factor is that there's no equivalent state testing in PE or fitness.

Right. If you're going to pull a kid out, you can't pull him out of a math or science or reading class. We call them specials – your music and PE and whatnot. So really we couldn't do a whole lot more without increasing the length of the school day. It sounds good to change laws so we have to add more PE, but I don't see that as a reality until there's a financial component to go with it.

### What does modern PE look like at the elementary level?

It's standards-based. There's a misperception of PE everywhere, and we try to fight hard to overcome it. Anybody who's older can remember PE as fun – you just show up and run around and get an A. We feel if it's physical education, there's really got to be that education component of it. So we hope kids are learning fundamentals and skills that help them for a lifetime – being able to run, throw, catch, how to calculate their heart rate as opposed to just playing random games. You've still got to play the games, but you've got to learn the skills first, and we assess on those skills, also.

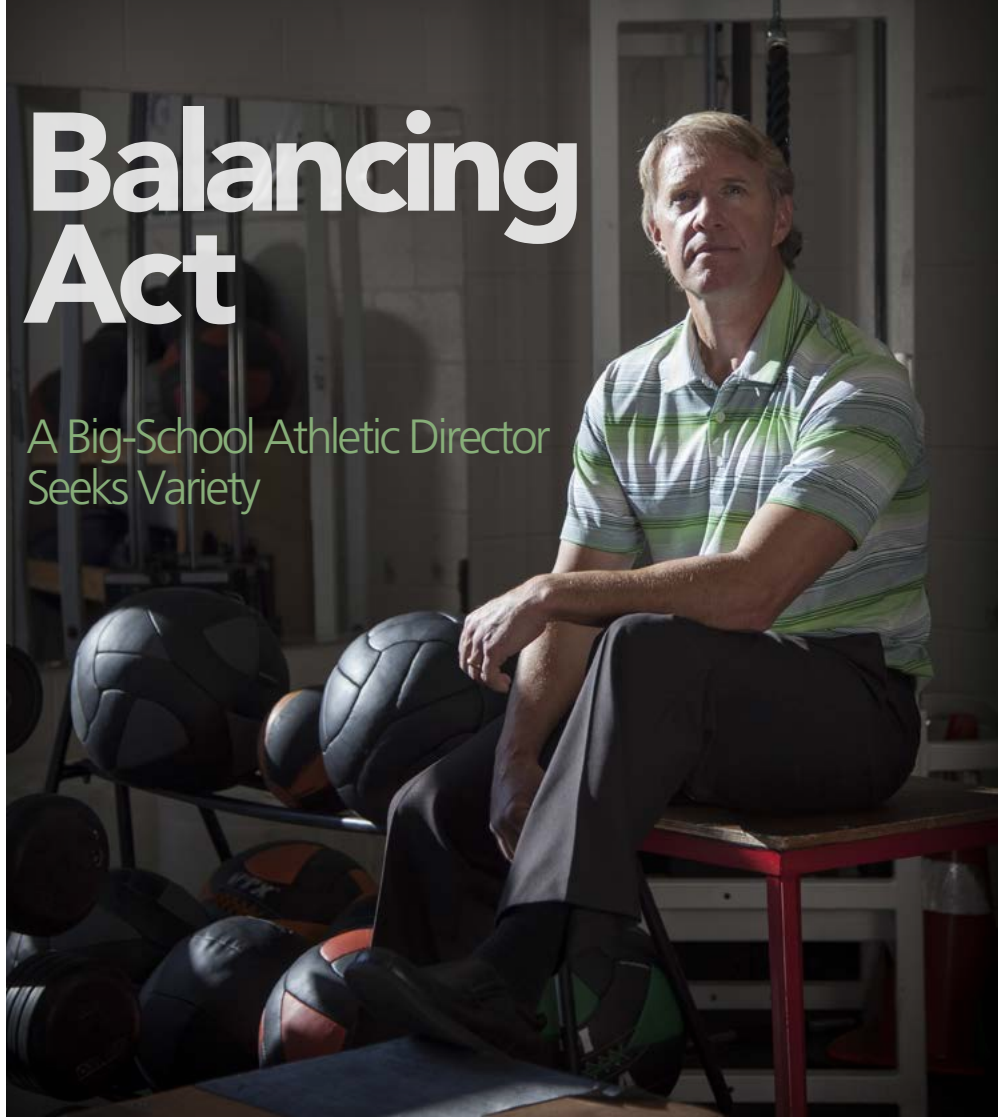
### What's an example of a standard you are trying to meet?

Like a locomotor skill or movement. Skipping, for example, is a kindergarten one. We do a pretest, work on it, practice it, have a post-test and a rubric to score them, make sure their head is in the right position and they are using opposite arm and leg. You could go through every grade level and find things like that.

### Is there a difference over time in the way students are coming into school in terms of their fitness level?

I see more of a difference between socio-economic groups. You can't really say in general that kids are lazier than they used to be. I don't think that's true. When you go in our schools that are in a higher socio-economic area, the kids have more opportunities. The parents have them in club sports or other things. In other schools, the kids don't eat as well; they aren't involved after school because they may need to be home with their other siblings or don't have rides.

Athletically speaking, I think teams are as good, if not better, than they've always been, but I think there's a lot more specialization than the old days. Nowadays, you play basketball – it's almost a given that you play year-round. And if you don't, you'll have a harder time making the team or you won't be as good. I don't know if that's good or bad. In some ways it's a shame because you're taking away that three-sport athlete and [that] somewhat limits the opportunities, I think.





**What's important for those kids who are not on the travel teams, whose parents are not hoping for the college scholarship – the average kid who does have to go home and take care of siblings after school? What are some good goals and lifetime skills you are trying to help them with?**

Starting at the elementary level, we've implemented Playworks on the playground with a grant from Kaiser Permanente. And we've tried to increase our after-school activities even though we already had a ton. Things like swim lessons, which is a lifetime activity that can also save lives. Things like rock climbing with a climbing wall – we can get kids to our high school to do that. The whole recess component is active play, trying to get them as active as we can at recess as well as things like teaching them anti-bullying and good sportsmanship and trying to include everyone.

Everybody knows basketball and football and volleyball. Not everybody wants to play those. We do Ultimate Frisbee, Frisbee golf – all kinds of things. We teach ways to problem-solve. And within the classroom, I would guess three-fourths of the elementary schools are doing active brain breaks in between subject areas. Get up and do a five-minute activity like Go Noodle. Do 10 mountain-climbers – that gets kids re-energized before they sit in their seat.

**In high school, it used to be the mentality that basketball is for the jocks, and the rest of us can sit around and talk during PE. That must not be the case anymore.**

High school is more of a challenge, but we're trying to address that need with variety. We have courses like "Rocky Mountain High," which teaches rock climbing or wildlife skills like setting up tents. They camp outside; they do compass skills incorporating math and physics. That class is really popular. We offer team sports as well, so kids that like team sports like volleyball or basketball or flag football can be part of it, too. Even in the weights and conditioning classes, we try to mix it up so that it's not just maxing out your bench press, but also yoga and fitness balls and a lot more things to do.

**Is there a role for more technology in this?**

Absolutely. We use WellNet, which is something we can do through the Colorado Health Foundation grant, and through that we were able to buy iPads for all the teachers. They can record kids' scores from kindergarten all the way through high school. They use it to video kids and show them in slow motion. You can write on it to teach the motions. The video can show a parent why a kid might have been seen as nonproficient. We have heart rate monitors; some classes use them.

Some of the Fitbits and other things get expensive. And it's not for all classes, and not for all levels of responsibility. Trying to find those that are durable for a whole year and all the classes coming in, changing batteries – it takes a lot of work to keep up with that. And we got a lot of grant money for equipment. I'll put our equipment up against anybody's.

**"The problem is we don't have people to run programs."**

*Dave Eichman, athletic director,  
Colorado Springs School District 11*

**If you had either more money or more time in the day, what would you do differently?**

Really it's a time factor. The number one thing for overall fitness is salaries. We can buy all the equipment we want – it doesn't matter.

The problem is we don't have people to run programs. You can't find volunteers anymore. You can for a short-term deal, but it takes a lot of time, and it seems like it's harder and harder to get people to volunteer. So that's number one is finding money to pay people to run programs.

At the elementary level, I'd say we'd have to lengthen school days, and that comes back to money. You're not going to lengthen school days without paying teachers more. Most of our elementary kids have PE two or three times a week; you'd need to lengthen the school day to get PE four times a week. It's almost frustrating; there's a grant where you should apply for equipment, but we need salaries to pay people. And any state mandates – it won't help us unless there's funding to help run it. •



*Doherty High School students, including Jalen Haymond here, hit the weight room in Colorado Springs District 11.*



## Delta School Board Member Tammy Smith Explores Boundaries of PE

By Michael Booth  
Photography by James Chance

**Editor's note:** Tammy Smith has been a board member for Delta County Schools since 2009. The 5,000-student district is spread over 1,157 square miles in the west-central mountains, encompassing fairly isolated communities like Delta, Hotchkiss and Cedaredge. Smith is a lifelong resident and owns a small business in Hotchkiss. She went to the then-Mesa College (now Colorado Mesa University) on a basketball scholarship and has coached school athletic teams.

### Do you feel children's physical fitness is part of a school district's responsibility?

I think to a certain extent it is. The problem is I feel like it's more expected now from parents that the school districts do all of this rather than take responsibility at home. I think the direction we're going is really good; we're going towards children having a more active life. By overhauling our PE program we're explaining more to kids why you should be fit and eat well and have good exercise with that. With the education part of it, as far as leading a healthier life, I think that is the school district's responsibility because a lot of kids are not going to get that at home.

### Do you feel some parents are kind of giving things up to the school that they don't have time or energy for?

I think there's just an expectation that parents expect the school to teach their kids everything; or they don't have time at home because they are working two jobs or may be single parents. So I think they put a lot more on school districts and expect a lot more out of them, and I think PE or physical activity is just one of those things.

### Describe your district in terms of its student size and geographic size.

We have about 5,000 kids, and those kids are in about five communities over 110 square miles. We have four high schools; we have a charter school; we actually have a Montessori school and a technical college in our district. So we're pretty unique. [We have] two really small high schools and one really big high school. The demographic population is different in each of those communities. At the bigger school, it has a larger Hispanic population so we have to find a way to incorporate things for all kids. We have soccer teams that are all-county teams, rather than doing away with a program that a kid might be interested in.

### Because it's pretty spread out and rural, do you have kids who spend significant time on the bus?

We have kids who will get on the bus at 7 in the morning and school doesn't start until 8. So yes, 40 to 50 minutes a day one way. But that's also part of living in a small community and living in that rural atmosphere. So that just means that much more time those kids are sitting and they're not getting exercise.

### There's always the danger of looking back and saying, "Well, in my day, those kinds of things did or didn't happen." But I'm curious – you have been there a long time. Have you noticed a change in students' fitness in the time that you've lived there and since you were playing a lot of basketball yourself?

I've definitely noticed a change. When I was growing up, there wasn't all the electronic and TV games, etc. After school we would go to the end of the block and play basketball until it got dark. There's a lot more time now doing Xboxes and video games rather than getting out and being physical. The only kids you really see doing that are the ones who are involved in a sport through school. A lot of times the kids come home, their parents aren't home so they are latchkey kids, and there's no one home to force them outside to do stuff.

### A lot of the reason people are thinking about and working on these things are the growing obesity issues among children. Do you feel Delta is part of that trend?

I think we're seeing more and more kids are obese, and a lot of that comes from parents being busy and grabbing fast food for dinner. We know more and more families who eat out more and so they're not thinking about healthy choices. In our district they implemented the food guidelines. What we found is that it's not catching the kids who really need it. Those kids are still bringing their own lunch and not making healthy choices. They're not really eating the healthy meals anyway. And on the reverse side, we have athletic kids who are using a lot



...  
**“By implementing more PE – not just exercise but also education and nutrition, what to eat and what not to eat and why – we can solve some of those issues at an earlier age and not end up with so many obesity problems.”**

*Tammy Smith,  
school board member, Delta County Schools*  
...

of calories and they eat the lunch but they are having to supplement with other things later in the day because they get hungry. We're probably going to have to educate parents as well because kids learn a lot of this by age 5 and have learned those eating habits at home. By implementing more PE – not just exercise but also education and nutrition, what to eat and what not to eat and why – we can solve some of those issues at an earlier age and not end up with so many obesity problems.

**So what has Delta tried to change about PE or with physical activity as well, not just defined PE time?**

We actually got a PE grant about three years ago, and we are writing our own curricula. And within that curricula, it's incorporating a lot of the aspects we are talking about like nutrition, how long you should be active and what part being active plays – making it more of a health and wellness and activity program rather than just going into the gym and playing kickball for an hour.

**Do you have a districtwide mandate about how much PE time or activity time kids get?**

We have that as part of our graduation requirement that you have to have so much PE or activity. Within our district, the kids who are very athletic, they can get those credits playing sports. If you don't play sports, we have PE classes where you can pick up those credits.

**Has there been much pushback from anyone, either about the requirements for graduation or teachers who already feel like there's not enough time in the day because of the academic testing requirements or other needs?**

There's been concern over the last several years because in Delta County, our budget has been very tight and so we've cut some stuff, and in doing that we're not offering as many classes in PE, especially in our younger grades. They're still getting [PE], but it may not be every day.

Staff would like to see those kinds of programs back in on a regular basis. I do know our staff feels the crunch of all the mandates coming down; it's so much more work for them to do the programs than it used to be. And I think that sometimes takes its toll on the kids. If it were up to me, it would be PE every day for every kid.

**But as a board member, translating that to actual policy, maybe the resources aren't there? What's holding that back?**

It's been financial. We're going to keep pushing and hopefully build to the point where PE is every day, every kid. It's a lot of educating to get there, including parents; it's educating people that it's important for a lifetime of health.

We're not just making kids go out and run a mile because we feel like it. Sometimes kids will go home and say, “Oh, they made us run a mile today,” without any understanding of why that might be important.

**Is it different in a small town than in a big city?**

One difference is that everybody knows everybody, and you know the parents and the kids and you know the backgrounds of everybody involved. So sometimes that makes it easier to deal with things because you know where people are coming from and you can use those relationships collaboratively. If you feel like a kid may be hitting a point where they are dangerously obese, you can sit down with the family and have a conversation and say, we think it would be helpful if they started participating in this or that activity.

**What would you like to see happening differently in PE in the next few years?**

I'd like to see the continuation of PE incorporated into overall wellness. With the lack of resources and finances, sometimes electives are the first thing to go. So the PE grant has given us the chance to push things forward and make sure our kids and our schools become healthy and happy, productive places. And to get kids thinking about going out and taking a hike or doing something outside or go to the gym – for their lifetime after they get out of school. A lot of kids play sports in school but then when they get out, they are no longer physically active. So it's giving them the tools to be healthy adults once they leave our district. •

# PE vs. PA



**Many school reviews and policy proposals make a distinction between “physical education” and “physical activity.”**

**Physical education** consists of formal instruction time, preferably with a teacher trained in standard curriculum, and may include larger health, body and wellness information.

**Physical activity** includes time spent in PE, but also includes classroom “brain breaks” using fitness motions; recess when students are moving; field trips incorporating movement, and other less formal exercise time.

# How PE Looks in Boulder Schools

By Ann Schimke  
Photography by James Chance

**A**t Boulder's Fairview High School, gym class feels a lot like a trip to the rec center.

On a Wednesday morning last fall as PE class began, some students snapped up colorful pinnies so they could join the indoor soccer game. Others hustled downstairs to the school's weight room or to a converted racquetball court filled with spin bikes. Still others filed into the wrestling room where Zumba lessons were about to begin.

Students were free to choose where and how they would complete the day's workout. The class, called "PE by Choice," represents Fairview's attempt to remake its physical education program around fitness and personal effort. It's also one example of how the state's high school PE standards, which emphasize lifelong activity and individual goal setting, translate into daily practice.

Aside from one dance-focused PE offering at Fairview, gone are the days where all students focused on one sport as a group. The new approach offers a choice of up to 10 activities each week, ranging from sand volleyball to yoga. It also requires fitness testing three times a semester and the use of heart rate monitors up to four days a week.

Getting teens to take ownership of their PE sounds great on its face, but there are valid questions about whether the choice model can work in smaller or less affluent districts where PE staff and facilities are limited. There's also concern in some quarters that ongoing skills instruction is absent in the model, and the emphasis on effort and participation won't ensure mastery of all PE standards.

At first, even some students resisted the new PE program, said Rob Vandepol, a Fairview PE and health teacher who helped spearhead the effort.

"We had a bunch of kids who were like, 'No, it's going to be too hard.' ... They [were] just not really understanding what the program is about," he said. "It's about individual improvement and doing things that you enjoy."

Ninth-grader Odali Arvalo, one of the few girls who chose soccer last fall, said she likes the variety.

"Sometimes you do get bored of always having to do the same thing," she said. "Not every sport suits you. So you need to find something that does."



Active games like a sprint-Scrabble challenge keep Boulder kids moving.



For the PE staff, the new model entails some logistical challenges – at times requiring three teachers to supervise up to 120 students in four locations. During the class last fall, Vandepol split his time between the soccer game and the nearby cardio room, walking briskly from one to the other every five or 10 minutes.

“We have supervision issues,” he admitted. “At some point, you have to decide what is really good for kids. ... I don’t want anything bad to happen, but I guess what I’m saying is, this is good for kids.”

## Inspiration in Illinois

The push to revamp Fairview’s PE program came from Principal Don Stensrud. He believed the school could move from good to great if there was increased emphasis on exercise as a way to prime the brain for learning. It was a key concept from the influential book “Spark: The Revolutionary New Science of Exercise and the Brain,” by Harvard psychiatry professor John Ratey.

That’s what led Vandepol and other staff members to visit Naperville Central High School in 2012. The Illinois school had pioneered an intensive, choice-based PE curriculum and was featured prominently in Ratey’s book. Based on what they learned in Naperville, Vandepol and his colleagues piloted “PE by Choice” in the spring of 2013 and implemented it schoolwide the next fall.

It works like this: Early in the semester, students are assigned a fitness level ranging from one to four based on scores from standard tests of cardio, endurance, strength and flexibility. Students in Group 1 are the fittest and are required to wear heart rate monitors once a week. Group 2 students wear them twice a week, and so on for Groups 3 and 4.

On the days students wear the monitors, the goal is to get at least 25 minutes in “the zone,” which is a heart rate of at least 140 beats per minute. Achieving that goal on the number of days required by their fitness level accounts for 40 percent of students’ grades.

For Kaelec Signorelli, a football player who had landed in Group 4, the format provides a refreshing sense of autonomy.

“You actually get to decide who you want to be,” he said. “Are you going to be the big slacker who ... doesn’t get your heart rate up? Or you can be the athletic person who tries to actually do this stuff.”

## Changing Attitudes Toward PE

One hoped-for benefit of Fairview’s new approach to PE is that it will engage a wider swath of students, not just those who can score goals. As Vandepol watched the fast-paced indoor soccer game, he noted that not everyone finds ball sports a good fit.

“Most of the kids in the cardio room, they would be the typical group that would suck together and try not to get hit by the ball in here,” he said.

That’s not to say that he doesn’t want students to try new activities. In fact, “PE by Choice” encourages cross-training by awarding extra points if students try more than one activity category a week. Besides promoting different athletic skills, it’s meant to build a repertoire that lends itself to lifelong activity.

...  
“Sometimes you do get bored of always having to do the same thing. Not every sport suits you. So you need to find something that does.”

*Odali Arvalo,  
ninth-grader, Boulder Fairview High School*

...

As Vandepol pitched students on the long list of options available last fall, he said, “Sometime later in life, you might not be able to get to the weight room and get to the gym and play with all your buddies ... but you might be able to get home from work at 6 o’clock at night and just go for a jog and you’ll feel better.”

It’s a theme out of the high school section of the state PE standards.

“Overall, our PE program is going toward lifetime physical activities. ... It really tends to gravitate away from the team sports,” said Sue Brittenham, a PE consultant for the Colorado Department of Education.

## Time and Money

While “PE by Choice” seems to be catching on at Fairview, don’t expect to see it widely copied across Colorado just yet. Even Vandepol knows it’s a hard sell.

“My hope is that it eventually will [spread]. But I know that change takes a really long time, especially in education.”

He said PE teachers at other district high schools have expressed interest in the concept. Some already offer a choice of activities but without the heart rate measurement. Meanwhile, at least one middle school in Jeffco Public Schools uses pedometers the same way Fairview uses heart rate monitors, but the choice component is absent.

At some schools, the price of the technology may be an obstacle. Fairview spent about \$12,000 on heart rate monitors as well as extra chest straps. Staffing limitations or liability concerns may also be sticking points.

“I know there are some high schools where there’s no way that could happen,” Brittenham said. “There’s no way you could have them not be directly supervised.”

Money and logistics aside, students like Mariano Kemp believe “PE by Choice” makes sense.

The freshman football player said, “It’s really how they should treat a PE class – to get the kids as fit as possible, to push you to the best [of your] ability.” •

# Less Sitting. More Doing.

In the first year of PE-related grants, Colorado elementary students spent only **38.4 percent** of their PE instruction time in moderate-to-vigorous activity.

By the third year, that jumped to **58.2 percent.**



# A More Activist Military?



## A Retired General Lends His Voice to School Fitness

Photo at left by James Chance

**Editor's note:** Retired Air Force Gen. Victor "Gene" Renuart Jr. was a force to be reckoned with as Colorado Springs-based commander of NORAD, the North American Aerospace Defense Command. Now Renuart, 65, is a force to be reckoned with when he argues for expanded programs in youth fitness and nutrition. Renuart, also former commander of USNORTHCOM, joins military colleagues in highlighting the desperate need for high school physical education and holding the line with tougher lunch standards. He sat outdoors for a recent conversation with Michael Booth.

### What interested you in issues of fitness and readiness? Was it something you saw around you in the military?

Obviously the services are all very heavily focused on the fitness of their force. Over my career we've gone through in the Air Force maybe six variations of physical fitness standards and how to match that. They've all had a single underlying issue to deal with, and that is the fitness of the force as it enters, and how do you get them to match your standards in something as short as basic training? Equally, how do you maintain that fitness?

I think the Air Force has long understood that there's a direct correlation between the cost of its health care and the fitness of its force. There's a lot of data to show that you end up with more days lost, a higher cost of care, when the individuals are not meeting standards. Even coming close to the standards is sometimes a challenge. You can meet the baseline and still have risk factors based on the American Heart Association and other standards. So for military commanders, that's been a key focus area for us as long as I've been involved in the military.

That has been exacerbated over the last few years with the challenges on budget. When you balance that with the cost of health care as it sits today, and of course we provide that health care benefit for our retirees as well, that continues on for an exceptionally long period of time. So in trying to reduce that roughly 65 percent of our budget every year that's spent on pay and benefits, and much of that spent on health care, it's clear the best way to get at it is well before they come in the service. That's a long way of saying many of my colleagues and I feel if we're not out there vocally talking about the values and benefits of fitness at a very young age – elementary and middle and high school levels. You almost don't have the time to fix that before they come aboard.



**And have you noticed a difference – a deterioration – in the level of readiness people are coming with into the recruitment process?**

For me, the most stark statistic is that today if you polled our high school seniors, less than 25 percent are fit. Not just physically fit, but mentally, legally, educationally and physically [fit] to enter the service. And nearly half of those are not physically fit to join. And that number's been rising steadily over time. Interestingly when you look at what states offer in terms of physical education, that number, that slope, has gone down. Certainly even here in Colorado, we don't keep good databases on how many fitness courses are required, how many people participate, what's required to graduate; that's just not available. So you really have no way to tell what we could do, and that's been true almost across the country.

Just as a side note – the same people we are trying to recruit are the ones that the private sector is recruiting, and we've seen that with the implications of the Affordable Care Act and rising health costs in recent years. Businesses, too, are seeing the benefits of a healthier workforce. So there's a nice partnership there that has grown fairly strong in recent years.

**At what point in the recruiting process do you start letting people know that they need to be fit, or that they may not be fit enough yet to join and there are things they need to work on?**

You know, 25 years ago, we basically figured we could solve this at basic training. We'll get these youngsters in and we're going to put them through a tough 12- or 14-week training period and by gosh, that weight will come right off.

**That's the public impression or stereotype – that people get in and a drill sergeant yells at them until they get into shape.**

What we realized is that the problem started way before that. So now, all of the services have a screening service prior to even allowing the young man or woman to enlist. So now you might go to a Marine Corps recruiter and he would say, "Here are the standards you have to meet when you walk in

the door. We give our evaluation tests monthly at such and such a date. You come back and we'll evaluate you." And in some cases, the recruiters who go into the high schools are partnering with the schools so that students who are interested in going into the military have access to more fitness activities that will allow them a chance to succeed by the time they graduate.

Each of the services is a little different, but they're not designed to make SEALs out of everybody as soon as they come into the military. They're really designed so that your body fat and body mass index are within those ranges that are considered safe by the medical community. And have the potential to be very fit as you press forward.

**"Each of the services is a little different, but they're not designed to make SEALs out of everybody as soon as they come into the military."**

*Gen. Victor Renuart Jr., Ret.*

**I think when people hear about Mission: Readiness, they think, "OK, it's sprinting up and taking that hill with 50 pounds on your back." But you're talking about once you are in, the lifetime health care costs, the retirement health care costs – somebody might retire at 46 and have 45 years ahead of him where the public is helping to pay for that.**

The investment that the American people are making in someone who will eventually retire from the military is a substantial one over time. Not only do we want them healthy while they are serving, but truly we want them to continue that healthy living as a retiree. As an aviator, I've had my flying physical every year, so I didn't know what it was like to not go to the doctor every year. But when I talk to my civilian counterparts, if they don't have an emergent condition, they might not see the doctor until five or 10 years go by. So we want to continue that habit pattern of healthy living, quality checkups, managing those chronic conditions over a whole career that drives the cost of health care down so the American public benefits from that as well.

**So what drives these changes? The military reflects the society, so members of the military may not be eating healthy. They might be spending too much spare time playing video games or being sedentary.**

Certainly all the temptations are there. But if we've done our job well, from the day they walk in the door they begin to have an understanding of the physical costs of inactivity. They understand the mission cost as well, that as part of our deployment process, if someone is outside the standard they are not able to go out with their unit. And there's a fair amount of social pressure that occurs then when Jim or Mary is pulled out of the deployment line with their unit because they are over the weight limit or the body mass indicator. And we also know if you don't enforce that, you add substantial pressure down range – even if it's just they are overweight. Depending on where they are going, just the environmental conditions in the area they are going may cause them medical problems they don't have today.

So we have a variety of programs that are kind of preventive in nature to make sure our mission is always to be able to deploy forward. You've got to maintain that standard. So commanders work that pretty hard. If you go into any unit, you'll see signs on the bulletin board: "Spartan Run is Monday" or "Squad is playing volleyball Tuesday." It's never 100 percent but when you live in a cohesive unit, the pressure becomes pretty great. You might be a video-gamer, but during the workday, we're going out on a 5-mile unit run. And the military has done a good job incorporating that fitness into the duty day, where other organizations might say, "Not our problem. You go do that somewhere else."

Shape  
Up

**U.S. Air Force officer  
male trainees must do  
33 pushups, 42 situps and  
run 1.5 miles in 13:36.  
Female trainees must do  
18 pushups, 38 situps  
and 1.5 miles in 16:22.**

*Source: U.S. Air Force Officer  
Training School*

**Our schools are talking about this more, too – don't just set aside 20 minutes in one part of the day and have all your movement there. Maybe at 11:30 a.m., before your test, 10 minutes of moving might help you focus more on the test.**

There's huge evidence showing the more physically active you are, the more mentally alert you are in any kind of testing situation. I spent quite a bit of time after 9/11 in Central Command, and there's a natural tendency right after any crisis to say, we're all hands on deck all the time, until we drop. The problem is if you do that too many times, your ability to make crucial decisions on the part of the nation is significantly degraded. So rest and activity become more and more important as you make those decisions. Same happens in schools.

For young people to be fit and feel better about themselves, the better they'll feel about attending class and performing on tests.

#### **Has military nutrition gotten better over time?**

It has. One of the aspects of a "treatment" program when someone does get outside the standards involves a nutrition program. I think the military has long recognized that a change in nutrition can change the body mass index, sometimes without the addition of any exercise. And if you are attentive to the appropriate mix of proteins and carbs and if you can reduce fat and sugar in day-to-day diet, you can see significant changes. When you combine it with physical activity, you can see pretty substantial loss. You can be selfish in all this and say, if they do that, then I'm paying way less in long-term chronic care. And oh by the way, if you're more fit, your body structure and bone mass are better prepared to take the abuse we sometimes have to put on you to carry things, for example.

#### **Do you have to disabuse sometimes the recruits of the notion that all they'll have to be doing is moving a joystick? That there's still a lot of physical demand?**

There's still some of that perception, especially with the Air Force, that it's a techie service. But first of all, for an aviator, yes, you fly with a joystick but you're flying with 9 Gs and a joystick. So your body needs all kinds of strengths. For our support folks, the tempo of our operations, even if they're working indoors, the pace is pretty constant. Somebody who works in a supply area certainly isn't going to grab a gun and run up into the hills. On the other hand, we're going to forward deploy them in places like Afghanistan or Iraq, and just the environment there is hostile enough that you want them to have a basic level of fitness. The other part is how do you represent the service in your appearance? It doesn't take too many people who are exceeding all the belts and seams and zippers on their uniform to represent to people that's not who we should be as a military. It's not what our nation expects of us.

**"There's huge evidence showing the more physically active you are, the more mentally alert you are in any kind of testing situation."**

*Gen. Victor Renuart Jr., Ret.*

#### **What do you tell policymakers when you talk about Mission: Readiness, and what do they say in return?**

People in general agree that we should be concerned about it. Then it changes when you start getting into the specifics. We've seen examples where the mayor of a large city has tried to ban soda from schools. People have a wide variety of reactions to that – those of a more conservative nature might say, we shouldn't tell people what to eat in schools. On the other hand we have many communities in Colorado where better than 50 percent of the kids are free-lunch-and-breakfast eligible. So those might be the only two potentially nourishing meals of the day. We ought to make sure they are fed correctly. We ought not to give them Double Big Macs every single day. There's nothing wrong with a hamburger or a slice of pizza once in a while, but we ought to balance that with fruits and vegetables.

I think you get generally good support for physical education, but they want to know what it's going to cost. And in many districts, they have chosen to step away from that as a cost-saving measure for more classroom time. All would say absolutely we want our children to be healthy. But where does it fit into my job category? If the parents don't care, why should I care? I think we should have a much more strategic vision. We've got to reduce entitlement spending in our country. One of the more obvious ways to do that is to reduce the cost of health care and also improve the health levels of our people. It's a great investment upfront to keep kids healthy and educate them about health and fitness and provide menu items that have the right balance. I probably paid zero attention to nutrition growing up, but I was outside all the time and playing sports and doing things that people do less now. Today we have a very different set of demographics, and we need to think more about being healthy and eating nutritiously. And that, by nature, requires some outside support for the schools. ●

# Shape Up

**The U.S. Marines "initial strength test" requires 2 pullups for men and 12 seconds of flexed-arm hang for women. The 1.5-mile run for men must be 13:30. Women must do 1 mile in 10:30.**

*Source: U.S. Marine Corps Recruiting*



# Cram Course

## An Education Leader Argues Against More Mandates for Movement

**Editor's note:** *If healthy living advocates in Colorado are to seek a stronger statewide mandate for physical education and activity in public schools, they will have to go through staunch opposition like that embodied in the Colorado Association of School Boards. Jane Urschel, PhD, deputy executive director of CASB, explains to Michael Booth what school board officials are – and aren't – inclined to do.*

### How do schools balance the increasing demands created by academic measurement standards, the desire for fit and nutritionally balanced students and all the other things we ask districts to do?

We have to establish a context about what goes on in our state and how we balance the demands of academic subjects, testing, social needs, and physical and nutrition needs. It's important to say we live in a state that is governed not by the Legislature but by constitutional formulas. One tells us to put the brakes on spending – that's TABOR; one tells us to protect homeowners on property taxes – that's the Gallagher Amendment; and one says you have to spend on schools – and that's Amendment 23. The state, knowing that, still borrowed from Amendment 23 and created a billion-dollar debt to schools.



These formulas strangle funding for both our schools and our colleges. It's like a Russian novel: It's long, bloody, boring, and in the end, everybody dies. That's school funding. What hasn't changed is the moral imperative to teach our children how to grow and thrive.

### So how much of a role can the schools play in the physical and nutritional lives of their students and other societal problems?

The key words are "societal problems." We may well be over the tipping point in trying to solve all of society's problems through our schools. Schools were established in our country to establish literate and numerate citizens, and we are still trying to meet that standard. That's why we've created measurements. Let's consider the obesity problem – I'm going to give credit here to Glenn Gustafson; he's the CPA for District 11. He has put out a letter – he says all of us share the vision of changing a generation through healthy and nutritious school meal programs. We know that breakfast and lunch may be the only nutritious meals [students] get all day or all week; but the national meal program can't solve all of society's problems. Kids are only in school six or seven hours a day, he notes. That leaves 16 to 17 hours a day outside, where they are exposed to junk and fast food, video games and other very unhealthy habits.

Districts are hurting and have to make choices. Hiring physical education teachers is very far down the list of their priorities.

### What was the official school board association position on a bill seeking more physical activity requirements in 2011 – H.B. 1069?

We adored the sponsor, Tom Massey, one of the best legislators ever; we opposed the bill. We did not question the epidemic of child obesity and the benefits of exercise; our opposition to the bill was that we did not believe it was the state's role to prescribe to districts how they should spend their time. It is the state's role to set standards and hold districts accountable.

### Is there room for a stronger state standard in physical education, with some teeth in it to make sure PE gets done?

School boards and teachers know the benefits of physical education; they know that exercise appears to offer so much. Dr. John Medina is a brain scientist who has said we have as close to the magic bullet to improve human health as science has, and that's the combo of physical activity combined with intellectual exercises. We get that. Creating a standard – it doesn't solve the problem. You asked if schools have a big enough commitment; I said yes. But given the academic mandates of standards and assessment, they are already doing everything they can to assure a level of fitness.

### Should we be doing anything more on the statewide level when it comes to trying to improve the amount of time spent in PE and the kinds of activities students get?

Not by legislation. I think we need to do more work with community-based efforts. When I look at my own grandchildren, ages 12 and 10, so involved in soccer ... and I know not every kid can participate in that, but I'm very impressed with how they are getting that activity. And it's not the school. It's not coming out of the budget of their district. I also think we need to intersperse physical activity with learning. I'm very impressed with the research on the benefits of standing versus sitting. There are things like that we can build into the school day.

### Is a statewide mandate needed to guarantee more PE?

No. Mandates may be good servants, but they are terrible masters. Mandates take bites out of curriculum, out of budgets and out of time in the school day, all of which we don't have enough of. •



THE COLORADO HEALTH FOUNDATION  
501 South Cherry Street, Suite 1100  
Denver, Colorado 80246  
303.953.3600  
[www.ColoradoHealth.org](http://www.ColoradoHealth.org)

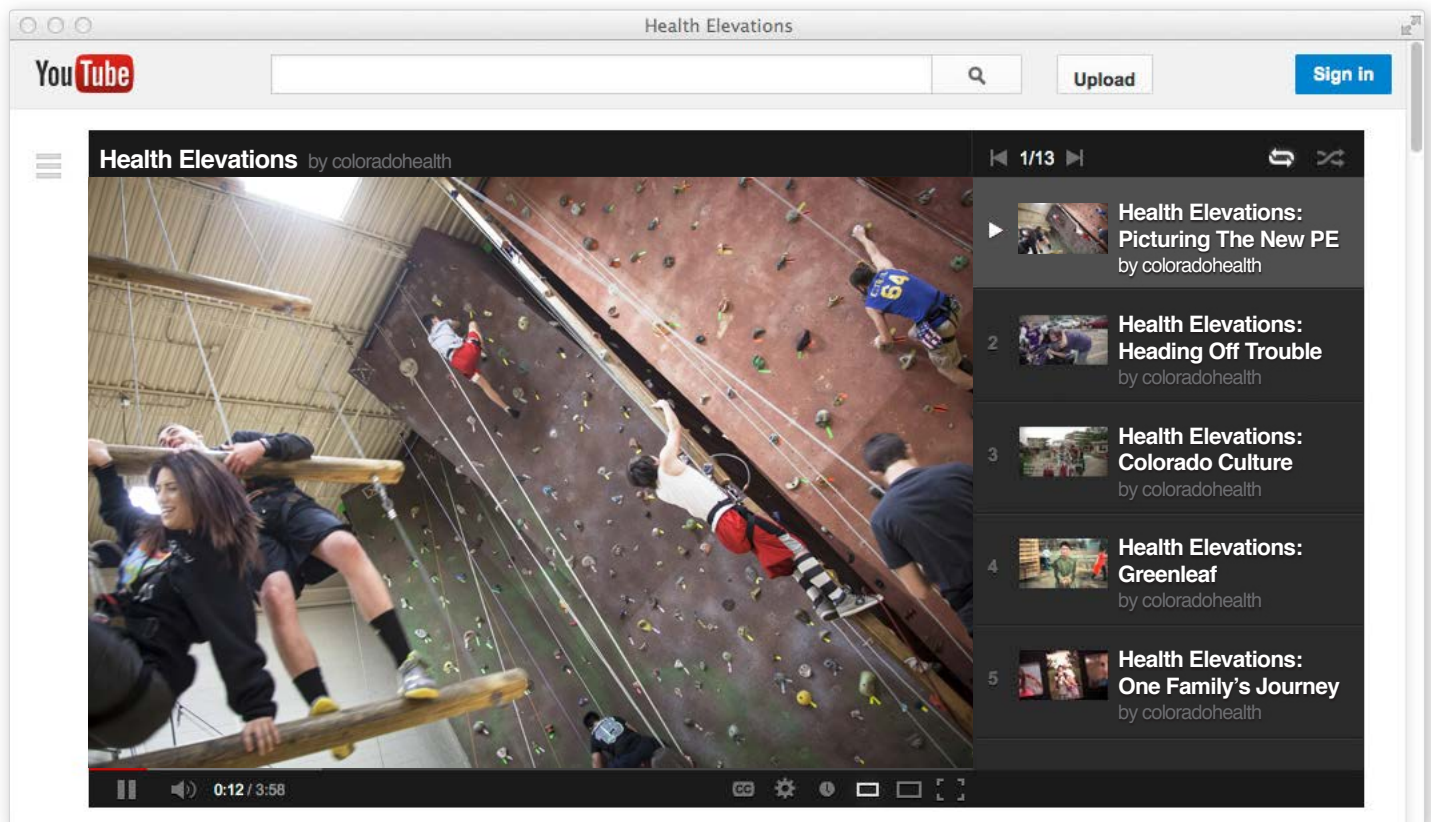
NON PROFIT ORG  
U.S. POSTAGE  
PAID  
DENVER CO  
PERMIT NO. 2779

RETURN SERVICE REQUESTED

# Visual Guide to the PE Issue

Sometimes the best way to watch kids getting physically active is in moving pictures. So check out our *Health Elevations* video story on students in places like Colorado Springs District 11 using innovative climbing walls and other techniques to build their fitness levels and outdoor savvy. See this mini-documentary at [www.ColoradoHealth.org/journal](http://www.ColoradoHealth.org/journal).

## Exclusive Online Video Content



Read related story on page 12 in this edition of *Health Elevations*.