

Childhood Obesity

An epidemic is gripping California and the nation.
How did we get here? What do we do now?



UCSF

University of California
San Francisco



KAISER
PERMANENTE®

UCLA Healthcare

D

ear Californians,

Thank you for taking valuable time from your Sunday to learn more about California's growing childhood obesity crisis. Throughout this special publication, you will find useful tips developed by medical experts that will give families the tools needed to raise healthy children.

As a mother of four, I can appreciate and value this information. The crisis cannot be solved by our doctors, educators, businesses or even our families alone. We will only achieve real change and lasting improvement in our children's health when we work together.

Best,

Maria Shriver
First Lady of California



CONTENTS

3 A STATE OF OVERWEIGHT
Health policy experts predict a perfect storm

6 CHANGE AGENTS
Prevention and education play critical role

9 BEYOND THE EXAM ROOM
Communities work to combat the epidemic

12 BACK TO BASICS
How schools can make a difference

15 FINDING THE POLITICAL WILL
Public health advocates encourage activism

17 BREAKING THE CHAIN
Certain ethnic and income groups most at risk

19 SUGAR SHOCK
Type 2 diabetes explodes in children

21 EXECUTIVE ROUNDTABLE
Nurturing a generation of healthy youth

A WORD FROM THE SPONSORS

This publication is the product of a unique collaboration among three of California's leading health care institutions: Kaiser Permanente, the University of California, San Francisco, and the University of California, Los Angeles. As individual institutions, all three are committed to the battle against what has rapidly become one of the greatest public health threats of our time: the growing epidemic of childhood overweight and obesity.

The reason for our sense of urgency is clear: Obesity is not a single condition, but one that underlies a host of debilitating chronic diseases that often last throughout—and shorten—a person's life.

As health care providers, we embrace our role as "first responders" in fighting this epidemic. But we also know that the still-developing clinical science of obesity prevention and treatment will not and cannot provide all of the answers. As many experts attest in the following pages, medical care institutions ultimately will play only a limited role in winning the battle. That responsibility lies with the widest possible collaborative network of individuals, families, neighborhood and community groups, businesses, schools, health care institutions, public health agencies, and government at all levels.

Acting on that belief, the physicians and researchers of UCSF, UCLA, and Kaiser Permanente have come together to produce this publication. Our goals:

- to provide reliable information from some leading state and national experts on the nature, causes, and impacts of the epidemic;
- to provide useful, science-based information for parents and others involved in childcare on how to help children who are overweight, as well as how to help normal-weight children stay that way; and,
- to promote a collaborative, public health approach to winning the battle against obesity by highlighting examples of the multidisciplinary approaches that are most likely to succeed.

We hope these pages will not only be read, but will be shared widely in classrooms, medical clinics, on community bulletin boards, in government forums, and elsewhere—or, better yet, cut into many pieces and taped to refrigerator doors.

Francis J. Crosson, MD, Kaiser Permanente

David A. Kessler, MD, UCSF School of Medicine

Linda Rosenstock, MD, MPH, UCLA School of Public Health

A State of Overweight

As kids are exercising less and eating more, health care and policy experts see a perfect storm ahead.

At the tender age of 12, Max Mendez found himself in the fight of his life—a fight for his life.

The 275-pound San Jose youngster came home from a jarring visit with his pediatrician, who presented him with the results of a physical exam and blood tests. “I had high insulin levels, high cholesterol—the bad kind—and my liver was starting to break up and become solid fat,” recalls Max, now 15. “I really freaked out. I decided I needed to make a change.”

Always a large boy, Max had grown up with dreams of one day playing football and other sports, but “because of my weight I was too slow,” he says. Instead of school or community sports, he filled his days with music and video games, recalls his father, Juan.

Prodded by a helpful nudge from pediatrician Ann Froderberg, MD, Max decided to enter Kaiser Permanente’s Pediatric Weight Management Program—a five-month series of weekly, two-hour sessions that teaches overweight kids and their parents how to improve their health through changes in diet and exercise.

Today, Max weighs in at 225—still high for his 5-foot, 8-inch height, but instead of looking overweight, he appears solid and muscular. (This, thanks to daily bodybuilding workouts and football practice.) Instead of whiling away his time in front of a video screen or a TV, he’s heaving a shot put and throwing the discus for his school’s track and field team. He’s also a starting defensive tackle and team captain for the junior varsity football team.

“My life has completely changed,” says Max. “I run faster, I’m stronger, I feel better.”

So how hard was it?

“I think it was harder for my mom than for me,” says Max, acknowledging her significant role in his eating habits. His mother, Maria, agrees: “I had to commit to the program with him, and I sure learned a lot about nutrition and how the body works. You learn that as a parent, you’re really in charge. We never have juices or candies around the house anymore, and I still pack his lunch every day with fresh fruits and vegetables and high-protein snacks like jerky.”

Two years after completing the program, Max has maintained most of his weight loss despite gaining muscle, which is heavier than fat. And he still goes to the weight management program’s “graduation” nights and speaks to new classes to encourage other youngsters. “It keeps me in check,” he says. “I look at those kids and I realize I never want to be like that again.”

Fastest growing disease in U.S.

Max’s story is inspiring, but it’s the exception. There are an estimated 9 million children nationwide who are overweight or obese. In California, more than 28 percent of kids in grades 5, 7, and 9 fall into this category, according to a 2005 study from the nonprofit California Center for Public Health Advocacy (CCPHA). And unlike Max, most of them will likely grow into overweight or obese adults—the fate for as many as 75 percent of all overweight adolescents, experts say.

If the increasing proportion of overweight children were merely a matter of bulging waistlines and deflated self-image, it would be a sad commentary on the California myth of lean and athletic youth. But it’s much more than that.

“It’s plausible that we’re going to see for the first time in 100 years that the generation coming up behind us will have a shorter life expectancy than the current one,” says Linda Rosenstock, MD, MPH, dean of the UCLA School of Public Health. “That’s an unbelievably large impact.”

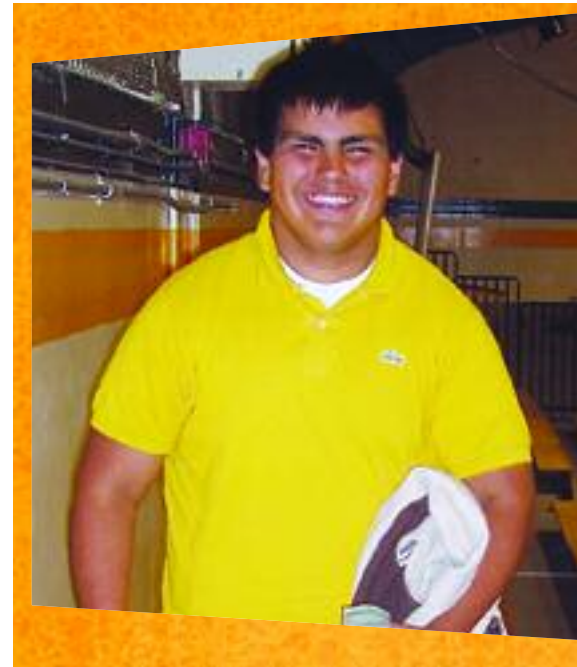
California is not alone. The nation’s public health officials have the epidemic in their sights, and are struggling to come up with workable solutions. U.S. Surgeon General Richard Carmona, MD, has compared childhood overweight and obesity to the threats of bio-terrorism and smallpox and called it “the fastest-growing, most threatening disease in America today.”

Scott Gee, MD, medical director for Prevention and Health Education with Kaiser Permanente’s Northern California region, concurs: “If you look at how many kids were overweight in the 1970s versus 2000, the rate basically tripled. Children born in 2000 or later have about a 30 percent or greater lifetime risk of developing diabetes (often associated with overweight), and as high as 50 percent in some high-risk populations.”

Gee says if the statistics bear themselves out, a troubling future lies ahead. “When you think of what we’ve accomplished over the past century through medical progress: antibiotics, immunizations and all the other advantages we’ve achieved in health care, they could all be erased by the epidemic of obesity and type 2 diabetes.”

These grim perspectives from medical experts in the trenches are borne out by some staggering assessments of the health impacts of overweight and obesity among youth:

- A study by researchers at UCLA/RAND found that the effects of obesity are similar to 20 years of aging, and that obese adults have 30 percent to 50 percent more chronic medical problems than those who smoke or drink heavily.
- More than one in four teens who have been teased about being overweight have considered suicide.



POSITIVE CHANGE. Max Mendez of San Jose weighed 275 pounds at age 12. After joining a pediatric weight management program, he dropped 50 pounds from his 5-foot, 8-inch frame. Now 15, he captains the JV football team.

Childhood **Obesity**

- Various studies have linked overweight in youth to a sharp rise in the incidence of type 2 diabetes, once rare in children, which can lead to blindness, heart and kidney disease, and even amputation of limbs. Overweight is also associated with increased incidence of asthma, cardiovascular risks, and sleep apnea.

Taking a bite out of **total health spending**

The economic impact of the epidemic is equally staggering. Obesity-related health care conditions contribute as much as \$93 billion to the nation's annual medical bill, according to a 2003 study by the Centers for Disease Control and Prevention. A 2005 study in the journal *Health Affairs* estimated that such conditions accounted for 11.6 percent of total health care spending in 2002, up from just 2 percent in 1987.

In California alone, a state-sponsored study in 2000 using data from 1998-1999 estimated the total direct and indirect costs (including medical care, workers' compensation and lost productivity) due to physical inactivity, obesity and overweight would reach \$28 billion by 2005.

Yet despite all the expert warnings and extensive media coverage, the problem among California youth has only grown worse. The 2005 CCPHA study showed that the number of overweight school children in grades 5, 7, and 9 rose 6 percent between 2001 and 2004.

While the rate increased for all racial and ethnic groups, it was particularly dramatic among certain groups. Overweight among American Indian and Alaskan Native children hit 31.7 percent. The rate among Latinos was 35.4 percent, while African Americans held virtually steady at 28.7 percent. The rate among white youth increased only marginally to 20.6 percent.

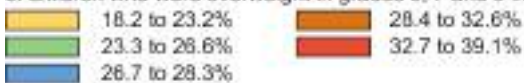
Harold Goldstein, CCPHA executive director, says these statistics are based on the state Department of Education's 2004 fitness test and include among the "overweight" some individuals who would be defined as only "at risk" of overweight by Centers for Disease Control and Prevention (CDC) measurements. Nonetheless, says Goldstein, "We were shocked. It's a personal and medical disaster, and not enough is being done."

Glued to the tube

The reasons for the surge are many and varied, but it all comes down to a pretty simple calculus, says Rosenstock of UCLA: "It's a matter of excess calories going in for calories burned. That means people gain weight."

Childhood obesity by State Assembly district

Maps are keyed by California Assembly district to the percentage of children who were overweight in grades 5, 7 and 9 in 2004:



Source: California Center for Public Health Advocacy



The question remains, why now?

"People aren't as active, and for children, many schools have cut back on physical education and after-school programs, particularly in lower-income areas, where obesity is rising most rapidly," says Kuk-Wha Lee, MD, UCLA pediatric endocrinologist at Mattel Children's Hospital at UCLA. "We also eat a lot more calorie-rich foods that are very high in fat and carbohydrates."

Other experts point to urban neighborhoods that are unsafe for walking or less conducive to exercise, due to poor neighborhood design and urban sprawl, and the supremacy of the car culture in California. Studies have found that 25 percent of all trips made by car are under one mile, and that the number of children who walk to school has declined over a single generation from 80 percent to just 10 percent.

A 2003 report, "Prevention and Treatment of Overweight and Obesity," summarized the findings of numerous expert panels convened by the CDC and Kaiser Permanente's Care Management Institute and Institute for Health Policy. It identified a number of environmental and social causes of overweight, including decreased physical activity, increased use of commercial food products, larger food portions, changes in community design that discourage walking and other forms of exercise, and socioeconomic status.

The Kaiser Permanente-CDC report pointed to a significant decline in opportunities for physical activity during and after school hours, noting that 48 percent of adolescents nationally were not enrolled in a physical education (PE) class, and 68 percent did not attend a PE class daily.

While experts recommend that children should get 30 to 60 minutes of at least moderate physical activity every day, the reality is that the average third-grader gets just 25 minutes of such exercise during school hours per week. Among U.S. high school students, daily participation in physical education classes decreased from 42 percent in 1991 to 28 percent in 2003.

PE classes are not required daily in California, and although the state Board of Education announced new physical fitness standards for all grades in 2004, enforcement of the standards has lagged. "We've routinely taken exercise out of our schools," says Rosenstock of UCLA.

Compounding the impact of less physical activity in schools is the dramatic increase in sedentary activity outside of school, say many experts. The average American school child spends more time each year in front of

the TV set or computer—about a quarter of their waking hours—than in any other activity. According to a 2003 report from the Henry J. Kaiser Family Foundation, more than a third of all children under 6 years of age—and 26 percent of children 2 years and under—have a TV in their room, which many experts strongly discourage for all children.

Constant calories

Besides declining physical activity, experts also point to the increasing consumption of high-calorie, high-fat fast foods and beverages in the average youngster's diet. A 2005 report from the UCLA Center for Health Policy Research shows more than 300,000 teens, or



Defining the Problem

The following terms coincide with Body Mass Index (BMI) and BMI-for-age measurements and are used to classify weight status:

Obese – Term used to define adults with a BMI of 30 or greater. Many experts say this term should not be used for children.

Underweight – Refers to children below the fifth percentile of the BMI-for-age.

Healthy Weight – Refers to children whose weight falls between the fifth and 85th percentile of the BMI-for-age.

At Risk for Overweight – Preferred term for children and teens between the 85th and 95th percentile of the BMI-for-age.

Overweight – Because of the stigma associated with the term “obese,” health advocates instead use the term “overweight” to refer to children and teens who are at or above the 95th percentile of the BMI-for-age.

The BMI-for-age charts are the recommended tool for identifying whether a young person’s weight is healthy or not. In 2000, the Centers for Disease Control and Prevention issued improved growth charts, which are organized by age and gender and accommodate youth growth patterns.

HOW TO CALCULATE YOUR CHILD’S BODY MASS INDEX [BMI]

	EXAMPLE:
1. Determine your child’s weight in pounds and height in inches.	70 pounds 54 inches tall
2. Divide your child’s weight by height.	70 ÷ 54 = 1.296
3. Divide the results by the child’s height again.	1.296 ÷ 54 = 0.024
4. Multiply by 703. This is the child’s Body Mass Index.	0.024 x 703 = 16.88

Sources: Center for Prevention and Health Services, National Business Group on Health; California Center for Public Health Advocacy; Centers for Disease Control and Prevention

about 10 percent, eat fast food twice a day, and nearly 90,000 do so three or more times daily.

By comparison, fewer than 25 percent of California teens eat the recommended five servings of fruits and vegetables each day.

“One of our key findings is that students who have access to soda in vending machines at school drink 25 percent more soda than those who don’t,” says study co-author and research scientist Susan H. Babey. “Informed policy can encourage young people to adopt healthier habits.”

Not surprisingly, there is plenty of debate about what constitutes “informed policy.” Some conservative groups, as well as trade organizations for the snack food and beverage industries, promote the idea that what people eat and drink is a matter of “personal responsibility” and not an issue for public policy and heavy-handed regulation.

Public health advocates tend to disagree. Many argue that the issue is strikingly similar to the battle over smoking.

“Childhood obesity is akin to the tobacco epidemic,” says Robert Lustig, MD, professor of pediatric endocrinology at UCSF and director of the Weight Assessment for Teen and Child Health (WATCH) clinic at UCSF Children’s Hospital. “The physiology is the same, and there is a tremendous amount of food and beverage marketing to children, in some cases by the same companies that make tobacco.”

“In tobacco, we have legislation to protect children, but in obesity we do not. Well, children cannot exercise ‘personal responsibility,’ so they need society’s help. But they are not getting it.”

Trina Histon, PhD, co-director of Kaiser Permanente’s overweight and obesity initiative, says stakeholders need to “transcend the debate over responsibility and focus on providing people with healthier choices. It’s not about penalizing anyone.”

In California, the fight against childhood overweight did get a major boost from government when Gov. Arnold Schwarzenegger signed two bills regulating snack foods and soft drinks in California schools during an obesity summit in Sacramento last September. They set strict new standards on the nutritional content of snacks and beverages sold on school campuses, and a third bill provided more than \$18 million in state funding to provide fruits and vegetables for school breakfasts (see sidebar, pg. 13).

Forging solutions

The governor’s obesity summit marked an important milestone in the battle against the epidemic by bringing together at a high-profile event the many interest groups that have a financial or public health stake in forging solutions—large employers, health plans, local governments, nonprofit community groups, and representatives of the food and beverage industries that all experts say must be part of the solution.

But to a great extent, the responsibility to provide solutions has fallen disproportionately on health care organizations and medical care providers, say many experts, and that’s a problem. “Relying on medical care organizations and providers to solve this epidemic is just a sign of failure,” says Rosenstock of UCLA. “There’s no magic bullet in medicine.”

Melvin Heyman, MD, chief of pediatric gastroenterology, hepatology and nutrition at UCSF Children’s Hospital and chair of the American Academy of Pediatrics committee on childhood nutrition, says the medical response to obesity is severely limited by insufficient research data and a lack of “evidence-based medicine that tells pediatricians what to do. We don’t have a therapy that has been proven to work,” he says.

Drugs for overweight are mostly experimental, says Heyman, and surgery for kids should be conducted only within research projects with long-term follow-ups, due to safety concerns.

Histon says health care organizations must look beyond the medical clinic. “We have to be in the schools, in the communities, in the workplaces of our purchasers. We have to provide support for patient-centered self-care everywhere the patient is at every point in time across his or her life span.”

Histon’s colleague, pediatrician Amy Porter, MD, the physician lead for childhood obesity programs in Kaiser Permanente’s Southern California region, says prevention is the key: “Our first and foremost approach has to be prevention. That’s where the big bang for the buck really is, so much more so than with treatment after they’ve already gained weight.”

Signs of hope

Despite the worsening statistics, experts see many signs of progress and reasons for optimism.

Gee contends progress is being made, even if it isn’t reflected in the numbers yet. Hopefully, he says, “we’ll see a decrease in the prevalence of childhood obesity as early as 2010,” though the effects of today’s epidemic may linger as overweight children age into overweight adults.

Rosenstock sees many encouraging signs, mostly at the state and local level. But she’s far from ready to declare victory. “We have a lot more to do if we’re not going to be too little, too late. We’re going to have to get ahead of this one, because obesity is worsening while we’ve been taking baby steps to address it.”

Change Agents

Getting a grasp on the childhood obesity epidemic means refocusing health systems' approaches to prevention and patient education—and the willingness to put resources behind the effort.

An epiphany struck Preston Maring, MD, as he walked through the lobby of Kaiser Permanente's Oakland Medical Center several years ago. Nearby, Maring noticed pushcart vendors hawking everything from jewelry to clothing. What if the products for sale were more in line with the health care organization's mission of promoting good health? What if the medical center opened a farmers' market, a place where patients, staff and community residents could buy fresh fruits and vegetables—all this in the heart of the city—where access to fresh produce was spotty at best?

Maring, associate physician in chief at Oakland Medical Center, set to work on the idea, and after considerable effort, the nation's first hospital-based farmers' market opened outside the downtown medical center on a breezy spring morning in May 2003.

He remembers clearly that first day: "I had to pinch myself. It didn't seem real."

The idea's success quickly attracted interest from others across the organization, and today, weekly fruit and vegetable markets are operating at more than 25 Kaiser Permanente facilities in five states.

No easy answers

Maring's bid to improve the eating habits of Americans is just one example of the tools health systems are now using to combat the exponential spike in adult and childhood obesity.

Yet despite the growing severity of the problem—a recent study by the UCLA Center for Health Policy Research revealed that more than half of all health maintenance organization enrollees in California between ages 12 and 64 are overweight or obese—strategies such as Maring's remain largely the exception. Physicians and others note that traditional health care organizations are ill equipped to address obesity from either a treatment or prevention perspective on their own.

Part of the problem is a scarcity of clinical data and research, says Mark Schuster, MD, PhD, UCLA professor of pediatrics and public health and director of the UCLA/RAND Center for Adolescent Health Promotion. The epidemic's rapid rise over the past three decades has left researchers scrambling. And while the federal government has lately placed greater emphasis on funding studies relat-

ADDING UP THE COSTS

Pediatric Obesity: Impact on Health Care, Schools and Society

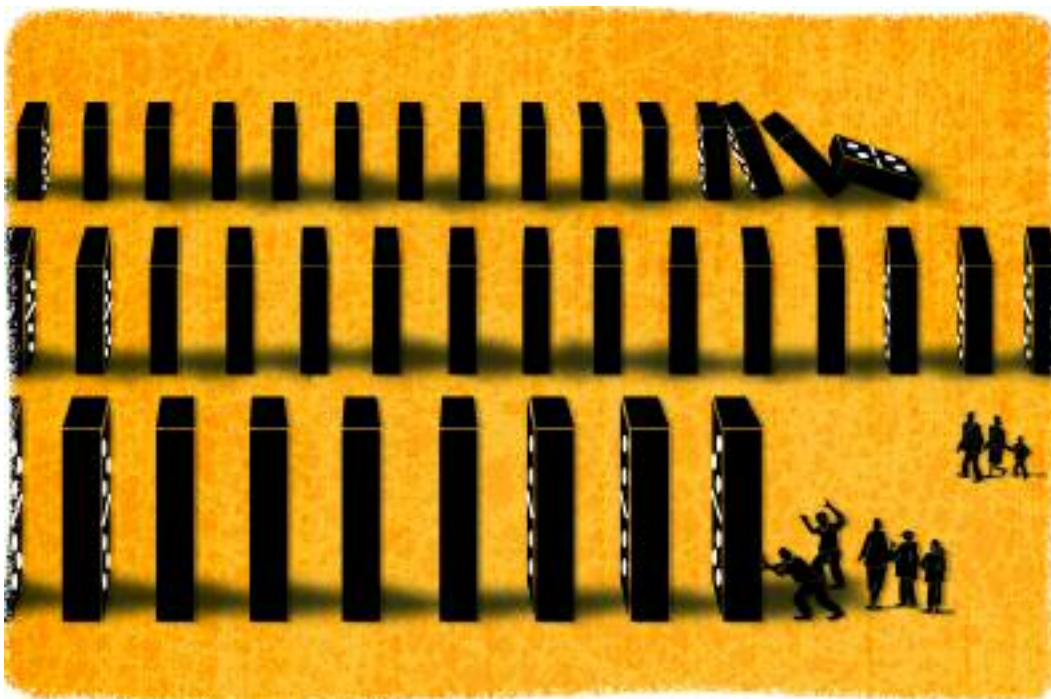
- > Each year, more American children are killed by obesity than by gun violence.
—U.S. Surgeon General's Call to Action, 2001
- > Obese children suffer higher levels of depression than pediatric chemotherapy patients, and report "low quality of life" at five times the rate of non-obese children.
—Journal of the American Medical Association, April 2003
- > Overweight children who develop type 2 diabetes may have heart attacks and need coronary-bypass surgery before they reach age 30.
—Kelly Brownell, Yale Center for Eating and Weight Disorders, 2004
- > Overweight children miss significantly more school days than normal-weight children.
—Childhood Obesity, a Growing Epidemic, by America's Promise, 2003
- > Academic performance has been linked to weight in some studies, with the finding that obese students perform less well academically than average-weight students.
—Childhood Obesity, a Growing Epidemic, by America's Promise, 2003

ing to childhood obesity, answers about effective prevention and treatment protocols remain elusive.

"If the federal government, foundations, and other organizations that fund research identify obesity prevention and treatment as a priority, researchers can provide the information we desperately need to address these issues," Schuster says. Health systems and health plans are also stymied by the absence of financial incentives for addressing obesity. Hospitals can bill only for comorbidities associated with obesity, not the condition itself or prevention. Many insurance plans, meanwhile, see such high membership turnover that developing long-term, preventative programs seldom proves cost-effective, says Robert Baron, MD, associate dean and professor of medicine at the University of California, San Francisco School of Medicine and director of the UCSF Adult Weight Management Program.

The prevention path

"In general, the American health care system does not reward prevention. That's why it hasn't been a priority in most venues," Baron says.





“Despite the substantial efforts of many, our health care system is still predominantly focused on the management of acute illness,” Baron continues. “It’s more difficult to develop solid evidence from clinical trials about prevention because these studies typically require larger sample groups, a longer time of follow-up and a bigger budget.”

Other roadblocks include a lack of physician training in the communication skills necessary to address sensitively the issue of obesity; the severe time constraints faced by physicians, and ambivalence among many parents about getting involved in managing a child’s weight problem, according to Scott Gee, MD, a pediatrician in Kaiser Permanente’s Northern California region and the organization’s medical director for Prevention and Health Information.

For her part, Ann Froderberg, MD, a Kaiser Permanente pediatrician based in Santa Clara, and a supervisor of its Pediatric Weight Management program, says parental involvement is crucial. “Unless we get the whole family committed to making healthy choices about food and physical activity, it won’t work,” she says.

The latter issue is just one small piece of the epidemic’s enormous societal component—an impediment that stretches from America’s love of convenience, to the abundance of high-fat, high-sugar, low-fiber foods, and the demise of school physical education programs. All contribute to sabotage the best-laid provider plans.

“A health system only offers support and resources to patients for a small portion of their daily lives,” says UCSF’s Baron. “Unfortunately, the rest of the time people are living in a world where many of the incentives are lined up in a direction that is in complete opposition to good health. We’re definitely fighting an uphill battle.”

Teaching the teachers

Despite the barriers, there is a consensus that health systems must be leaders in fighting the epidemic. A recent survey commissioned by the

Harvard School of Public Health found that 74 percent of respondents believed health care providers should play a “major role” in addressing the country’s obesity problems.

And while the role has yet to be defined and the scientific data is lacking, physicians say waiting is no longer an option. “I don’t think that the fact that we don’t have all the answers on effective clinical and public health strategies should keep us from making a major effort in this area,” says Schuster of UCLA.

“We have an enormous opportunity to improve the lives of the next generation if we can address obesity among our youth now,” he says. “Otherwise, there is a real risk that this generation of children could be much less healthy than their parents and predecessors. We need to apply what we know while we simultaneously conduct research to learn more.”

Of those organizations that have tackled the problem in earnest, Kaiser Permanente has emerged as a leader, in large part due to the stability and synergy created by providing both insurance and clinical care to plan members. In 2002, Kaiser Permanente launched a national weight management initiative designed to make adult and childhood obesity a priority among its physicians.

Training doctors in patient communication, obesity screening and basic preventative strategies has been a key focus of the effort. Today, physicians at Kaiser Permanente are taught to document each patient’s body mass index (BMI) on every visit. Eventually the information will be captured on the organization’s system-wide electronic medical record, currently in the implementation phase. Virtually all Kaiser Permanente primary care physicians, as well as 2,000 non-Kaiser physicians across California, have been through the “BMI as a Vital Sign” training thus far, Gee says.

This represents a change of approach. Amy Porter, MD, a pediatrician at Kaiser Permanente’s Baldwin Park Medical Center who coordinates the organization’s obesity prevention programs in Southern California, notes that when she and many of her colleagues attended medical school, “we

Leading Causes of Childhood Obesity

Chief among the multiple contributing factors to childhood obesity: poor nutrition and inactivity among the state’s youth.

Poor Nutrition:

Processed Food

- Americans eat an average of 4.2 commercially prepared meals each week.
- Processed foods are likely to be higher in calories, fat, and salt, and lower in fiber than natural meals prepared at home.

Fast Food

- Consumption of fast food by children has increased five-fold since 1970.
- Each day about one-third of American children eat fast food.
- On days that fast food is eaten, a child consumes on average about 187 more calories than a child not eating fast food. This equates to an extra six pounds of weight per year.

Super-Size Me

- Packaged food and restaurant serving sizes have greatly increased. For example, a small soda

used to be 2 ounces. Now 20-ounce soda portions are widely available at fast-food restaurants.

Sugars and Refined Flours

- In the last 20 years, children’s consumption of soft drinks has doubled, while their milk consumption has decreased 40 percent.
- The refined flours used in many breads and pastas have been stripped of vitamins, minerals and fiber, and they convert to sugar more rapidly than whole flours.

Irregular Meal Patterns

- Recent studies demonstrate that family meals promote positive dietary intake among children, yet many families report that they eat fewer meals together than past generations.

Inactivity:

Electronic Media

- Children now spend an average of five and a half hours a day using electronic media, more time than they spend doing anything else, besides sleeping.
- Even preschoolers spend as much time with screen media as they do playing outside.

Less Physical Activity in School

- Many schools have drastically curtailed daily physical activity classes
- Only 8 percent of elementary schools have daily physical education
- Only 6 percent of middle schools have daily physical education

Declining Activity After School

- 62 percent of children ages 9-13 do not spend any time outside of school hours in organized physical activities, such as sports.
- 23 percent of children report no physical activity at all during their free time.

Riding Instead of Walking

- Many children are driven to almost everywhere they go, so few kids walk or ride bikes to school or other activities.

Sources: Center for Prevention and Health Services, National Business Group on Health. *An Employer Toolkit: Reducing Child and Adolescent Obesity*

never learned how to talk about this problem. We didn't even learn how to calculate BMI. We didn't learn how to manage type 2 diabetes or hypertension. And we certainly didn't learn how to talk to a teenager about the need for a knee-replacement because they weighed 300 or 400 pounds and their knees were giving out. We have to change our whole paradigm of practice to deal with this epidemic."

Clinician focus

Getting doctors to talk about obesity is key. A study in the *Archives of Internal Medicine* in 2000 found that even for obese individuals, physicians provided advice about losing weight less than half of the time.

"The [communications] training has been well received and we have many, many requests for it from outside of Kaiser," Gee says. "Physicians are interested in learning more and doing more when it comes to obesity."

Besides its training program, Kaiser Permanente's weight management initiative includes clinical research and community outreach. The organization recently funded \$2.6 million worth of research to assess eight new weight management programs for children and adults aimed at strengthening the scientific evidence base for what works and what doesn't. And the organization's Healthy Eating, Active Living community benefit initiative has funded numerous community partnerships across the country, including \$9.5 million in grants to cities, local health departments, school districts and community-based organizations and another \$9 million to support community-based initiatives directed at environmental and policy changes that promote healthier schools, work sites and neighborhoods.

"A multigenerational bet"

UCSF, for its part, has operated the Weight Assessment for Teen and Child Health (WATCH) Clinic since 2003. The referral clinic takes a multidisciplinary approach to obesity treatment and zeros in on the underlying biochemistry of obesity.

ECONOMICS OF OBESITY

\$117 billion – Nationwide direct and indirect health care costs attributed to obesity in 2000.

40 percent – The additional amount of health care resources used by people who are overweight.

49 percent – The additional number of inpatient hospital days that obese people experience, which results in 36 percent higher costs to their health plans.

\$500 – The average additional amount people who gain 20 pounds or more will increase their medical bills per year.

\$75 billion – Nationwide direct medical care costs of obesity in 2003. Medicare, the federal healthcare program for people 65 and older, and Medicaid, the federal/state program for the needy, accounted for more than 50 percent of those costs.

\$21.7 billion – Amount spent by California in 2000 in direct and indirect medical care, workers' compensation, and lost productivity.

\$7.7 billion – Amount California spent in 2003 on direct health care costs attributed to obesity alone.

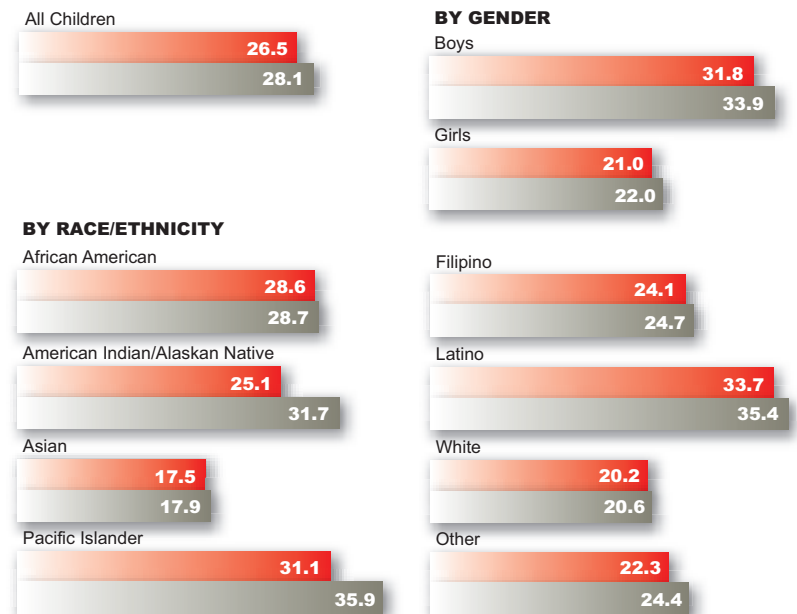
\$22.3 billion – Costs attributed to physical inactivity, obesity, and overweight in California in 2000.

Sources: National Institutes of Health; UCLA Center for Health Policy Research; North American Association for the Study of Obesity; RTI International, Centers for Disease Control and Prevention

CHILDHOOD OBESITY IN CALIFORNIA

Percentage of children who were overweight in grades 5, 7 and 9 in California:

■ 2001 ■ 2004



Source: California Center for Public Health Advocacy

"Places like the WATCH Clinic are going to be a small part of the answer, but only prevention will turn the train around," says Andrea Garber, PhD, RD, the clinic's coordinator. "To get where we need to go requires major public policy decisions and fundamental societal changes."

Melvin Heyman, MD, chief of pediatric gastroenterology, hepatology and nutrition at UCSF Children's Hospital and professor of pediatrics at UCSF, contends that any comprehensive approach to the epidemic needs to include not just health providers but government, media and the public at large. "We need to make this a priority in this country in the same way we dealt with the AIDS epidemic 20 years ago," he says. "Otherwise, there are going to be people who grow up with shorter life spans and the cost to society, both in resources and lost opportunities, is going to be enormous."

William Caplan, MD, director of Clinical Strategy with Kaiser Permanente's Care Management Institute, likens the struggle against childhood obesity to efforts aimed at improving automobile safety through seat belts and the ongoing antismoking crusades that continue to gain momentum nationwide. "This is a multigenerational bet and not something that is going to happen in a couple of years," he says. "It will probably take a generation or two to see the change at the population level. It will take a combination of efforts at schools, work sites, in health care, and at the public policy level. It's also going to take a lot of inspired leadership. But we don't really have a choice, because the consequences of not addressing this problem will be dire."

Robert Lustig, MD, a pediatric endocrinologist at UCSF and director of the WATCH Clinic, agrees. He says failure to stem the obesity epidemic in both children and adults will ultimately have catastrophic implications for the health care system as a whole.

"This epidemic is a calamity because it's steadily eating up all the resources and dollars in health care," he warns. "Eventually there won't be anything left for anyone else unless we solve it."

For his part, Kaiser Permanente's Maring sees the role that health care providers can play in the most basic terms.

"Our role has to go beyond providing medicines and conducting screenings for various diseases," Maring says. "As a primary care physician, I believe that what people eat and how much physical activity they get are the two fundamental pieces of good health. So we need to help them make good decisions in those key areas." □

Beyond the Exam Room

Community-based programs are scrambling to keep up with surging demand as families and health care providers grapple with the childhood obesity epidemic. Meanwhile, funding is tight.

University of California, San Francisco pediatric endocrinologist Robert Lustig, MD, used to spend most of his time dealing with serious but relatively common ailments like childhood diabetes and growth hormone deficiencies.

But that was before the obesity epidemic. Today, Lustig and many of his fellow endocrinologists focus almost exclusively on a range of obesity-related disorders, including a particularly harrowing condition known as Non-Alcoholic Fatty Liver Disease, or NAFLD.

Previously unknown in young people, the disease in its most advanced state replicates in teens the liver damage seen in acute, aging alcoholics. Yet the origins of the cirrhosis, or liver scarring, have nothing to do with wine or whiskey. Rather, he says, the culprit is a steady diet of high-fat, high-sugar, and low-fiber foods.

“We never saw this 20 years ago. Never,” Lustig says. “But now it’s routine to see liver disease in probably 10 percent of the obese children, and of those, 10 percent have changes consistent with cirrhosis. It’s frightening, because it’s becoming so much more prevalent. And if your liver goes, you go. The options basically become transplant or death.”

Grappling with such unprecedented health challenges is increasingly common for physicians like Lustig. Throughout California, new strategies are being developed to address childhood obesity and its attendant health problems. At the same time, existing weight-loss and weight-management programs are scrambling to keep up with surging demand in the face of reduced funding.

Societal pressures

While physicians report progress on a number of fronts, however, they also express frustration with the inherent limitations of obesity-management efforts.

“To some extent, it’s sort of like putting your finger in the dike,” says Andrea Garber, PhD, RD, assistant professor of pediatrics at UCSF, and coordinator of the UCSF Children’s Hospital Weight Assessment for



Teen and Child Health (WATCH) clinic, an interdisciplinary pediatric weight-management program headed by Lustig.

“We educate kids about the importance of not drinking soda or fruit juice because it contributes to overweight, but then the minute they get to school, it’s practically forced down their throats,” Garber says. “Although we’re making strides, there are many forces out in society working against us and sometimes it feels like our work is being undone.”

Despite the challenges, California continues to play a leading role nationally in defining responses to the epidemic. Now two years old, the WATCH Clinic incorporates specialists from endocrinology, cardiology, psychology, nutrition, and surgery to create a unified, comprehensive approach to treating childhood obesity. The program has a five-month waiting list for new patients.

The clinic’s organizing principle is the belief that biochemical and genetic factors play a fundamental, if not decisive role, in childhood obesity, according to Lustig, a specialist in neuro-endocrinology.

“Some of the food we’re eating alters our hormones, which in turn makes us eat more,” he says. “It becomes a vicious cycle.”

Turning off the Tube

Clear correspondences have been drawn between childhood overweight and TV viewing.

The magnetic force pinning kids to the couch and gluing them to the tube starts early on, and this sedentary lifestyle is leading to heavier kids. Studies show the average U.S. school child spends more than 1,000 hours each year in front of the television. That's more time than spent in the classroom, and the trend continues upward through adolescence.

The connection between screen time and overweight is clear. Indeed, studies show that each hour of additional screen time corresponds to an increase in the risk of overweight, a rise ranging from two percent to six percent. Adding a television to a child's room further increases their risk of overweight, studies show.

Children in the United States under age 6 watch an average of nearly two hours per day of

TV, according to a 2003 study by the Henry J. Kaiser Family Foundation. Meanwhile, it has been shown that 43 percent of children under age 2 watch TV every day, this despite recommendations from the American Academy of Pediatrics that kids in this age range should watch no TV at all. By the time the average American reaches age 65, he or she will have watched about nine years of television.

These grim statistics led Kaiser Permanente to partner with the TV-Turnoff Network. The network is a national nonprofit organization dedicated to encourage children and adults to watch much less television in order to promote healthier lives and communities. Through the partnership, Kaiser Permanente is working to raise awareness of the effects of excessive television viewing on childhood health.

Kaiser Permanente's participation in the TV Turnoff Week campaign—which takes place every April—has led to wide exposure among the integrated health systems' membership and the communi-

ties it serves. In 2004 alone, the intensive campaign disseminated 50,000 TV-Turnoff posters; 2,000 organizers' kits; more than 19,000 copies of a shorter online version, and tools to support clinicians, members, and communities to promote and adopt more active lifestyles. The effort also included radio shows airing on more than 1,900 stations.

TV-Turnoff Tips

- Keep the TV off during meals.
- Exercise as a family by taking walks, riding bikes, or learning a sport.
- Move your television to a less prominent location.
- Designate certain days of the week as TV-free days.
- Do not use television as a reward.
- Remove the TV set from your child's bedroom.
- Hide the remote.
- Don't worry if children say they are bored. Boredom passes and often leads to creativity.

Source: Kaiser Permanente

Encouraging healthy living

For clinicians, the ongoing challenge continues to be finding sustainable strategies for weight loss and weight management amid America's convenience-driven, fast-food culture. The odds are stacked against them in the state—a recent study by the UCLA Center for Health Policy Research showed that half of California teens eat fast food at least once a day. Nationally, fast food grew from 4 percent of total sales of food outside the home in 1953 to 34 percent in 1997, according to the U.S. Department of Agriculture.

One of the oldest community-based programs targeting youth obesity is KidShape. The initiative was developed almost 20 years ago by

Naomi Neufeld, MD, a clinical professor of pediatrics at Mattel Children's Hospital at UCLA. Neufeld says she became increasingly frustrated by the absence of programs designed to address the growing problem of childhood obesity she saw in her practice.

"The idea stemmed from the realization that you can't just tell obese kids to exercise, give them pills and send them on their way," Neufeld says. "If you don't include supervisory adults as part of the solution, then they will continue to be part of the problem."

The eight-week program is designed to teach the entire family how to eat more nutritiously, make exercise a fun and integral part of the daily routine, and form new, healthier habits. Since 1987, more than 14,000 California families have completed KidShape, which is licensed to Kaiser Permanente and several other health care provider organizations nationwide.

Similar to KidShape, the ShapeDown program, created in 1979, also focuses on incorporating the entire family in the process. The San Anselmo, Calif.-based program, which was originally developed at UCSF and now operates as an independent entity, is licensed to providers at approximately 1,000 health care facilities nationwide.

Beyond instruction on the importance of nutrition and exercise, the program stresses age-specific, psycho-educational techniques to address related issues such as body image, limit-setting and stress management.

Laurel Mellin, MA, RD, associate clinical professor of family and community medicine and pediatrics at UCSF and the original developer of ShapeDown, says the program incorporates a comprehensive, computerized patient assessment designed to identify a range of both physical and psychological problems that may manifest themselves in overeating.

"The goal of ShapeDown is not simply weight loss," Mellin says. "It's to create emotional balance within the entire family by providing the developmental life skills necessary to prevent eating disorders and other problems."

Mellin, who continues to serve as a consultant to ShapeDown, says controlled, government-funded studies have shown that the program—unlike many weight loss initiatives—continues to lead to weight loss after the instructional sessions end.

CULTURALLY COMPETENT WEIGHT MANAGEMENT

The KP KIDS (Kids In Dynamic Shape) weight-management program offered at Santa Monica's Venice Family Clinic (see pg. 17) is unique in being the only bicultural program in the state, with Spanish and English materials and instruction provided by bilingual staff.

Developed by pediatrician Veena Damle, MD, in October 2003 at Kaiser Permanente's Panorama City medical center, KP KIDS involves weekly interactive sessions with a half-hour devoted to nutrition for both children and parents, a half hour to exercise for the children, and a half hour of learning behavior-modification techniques involving TV watching, physical activity, and consumption of fruits, vegetables and sweetened beverages. The behavioral sessions are presented separately for kids and parents. Follow-up visits to the clinic are required at one month, six months, and one year to track progress.

Like several other pediatric weight-management programs, at least one parent or caregiver is required to attend all sessions, and siblings are urged to come along. "To be most effective, this needs to be a complete family affair," says Damle, who urges Hispanic families to bring in the grandparents, as well, since they often have significant influence over kids' diets.

The 6-week, \$95-per-child program (free at some community clinics) is now offered in five Kaiser Permanente facilities and four community clinics, with more in the works. Some sessions (as at the Venice clinic) are conducted entirely in Spanish. Other locations offer two-track sessions simultaneously.

The program's emphasis on behavioral change is garnering impressive results. Preliminary outcomes data for 151 kids (ages 5-12) who completed KP KIDS at three clinics show that six months after completion, children at all three centers showed significant improvement in BMI measures, time devoted to TV and video games, and consumption of healthy foods and beverages.



Reaching out, getting it to stick

A new program created this year by Kaiser Permanente is designed to make permanent some of the behavioral changes instilled by initiatives like KidShape and ShapeDown. Called Project HOPE (Help Overweight Progression through Empowerment) the weight maintenance program, which operates at two facilities in the organization's Northern California region, focuses on nutrition education, exercise and counseling through monthly meetings over a least a six-month period.

"There are a number of programs out there that help kids lose weight, but there are not a lot of options for them to work on maintaining new habits and not regaining the weight," says principal investigator Bette Caan, DrPH, a senior research scientist at Kaiser Permanente. "We're going to try to fill that gap."

KP KIDS (Kids in Dynamic Shape), Kaiser Permanente's multidisciplinary, program offered in Spanish and English, is one such effort. Available at Kaiser Permanente medical centers and community clinics in Northern and Southern California, the program focuses on weight management strategies for children. Outcomes from the project are the subject of ongoing research (see sidebar, pg. 10).

Robert Baron, MD, associate dean at UCSF School of Medicine and director of the UCSF Adult Weight Management program, agrees that follow-up is critical for obesity programs to have a lasting impact.

"Almost all of the current weight loss and weight management programs have their maximum effect at three to 12 months," Baron says. "After that, there's a trend toward regaining the weight. My

concern is that these programs can be very effective for some of the people some of the time, but they're limited because typically they're involving highly motivated patients who have the educational, psychological and economic resources to follow the recommendations."

The problem lies in the fact that the obesity epidemic is most severe among lower-income, less educated families, he says, whose access to a variety of resources, starting with healthy food, may be limited.


"There are a number of programs out there that help kids lose weight, but there are not a lot of options for them to work on maintaining new habits and not regaining the weight."

Another difficulty is program funding. According to Neufeld, the slow-pay and no-pay policies of the state's MediCal program and other insurers in September 2005 forced KidShape to suspend operations at 35 company-owned sites that are not licensed to Kaiser Permanente. When or if the sites will be restarted is unclear.

"The ironic thing is that even though demand is through the roof, and even though the governor has placed a lot of emphasis on addressing the obesity epidemic, and MediCal has acknowledged the importance of KidShape and agreed to reimburse for it, the reality is they haven't paid in a year," Neufeld says. "That has made it extremely difficult for us to continue."

Private monies are also a driving force. The California Endowment, a private, statewide health foundation, has emerged as a major player on the childhood obesity front in the state. The endowment has selected six predominately low-income, urban and rural communities in California to participate in its \$25 million, four-year preventive-health effort (dubbed Healthy Eating, Active Communities). Kaiser Permanente is one of a number of partners contributing technical assistance to the project. The objective is to combat the rise in childhood obesity by improving the food and physical activity environments for school-age children, and to effect change in the policies and practices that are contributing to the epidemic.

According to Lustig of UCSF, however, all the funding and programs in the world won't have a significant impact until and unless there are fundamental changes in the nation's diet as a whole.

"Obesity is the ultimate interaction between the environment and genetics, and the gene pool hasn't changed in the last 30 years. But the environment has," Lustig says. "What we have to do as a society is take a hard look at what we've done to our environment in the name of enterprise and progress, and figure out how it can be undone. Unfortunately, there are too many people making too much money to allow for that kind of dialog and debate to occur rationally." 

Healthy Snacking, Healthy Meals

Good Snack Foods to Have on Hand

- Fruit
- Low-fat cottage cheese
- Low-fat yogurt
- Frozen all-juice bars
- Celery or apples and peanut butter
- Whole-wheat crackers and low-fat cheeses
- Raw vegetables and low-fat dip
- Graham crackers
- Pretzels
- Fig bars
- Cereal and low-fat milk
- Applesauce

Tips for Healthier Meals

- Serve foods that are baked, grilled, broiled or steamed, rather than fried.
- Offer a small serving of lean meat. Provide large servings of vegetables.
- Large portions mean too many calories. A snack for a typical adult may be a carton of yogurt, but for a preschooler, 2-to-3 tablespoons of yogurt is about right. Be particularly careful about portion sizes in restaurants and takeout meals.
- Use 100 percent whole-wheat and whole-grain breads and buns instead of white bread.
- Serve the evening's vegetable as an "appetizer" when dinner is minutes away and you still have a captive, hungry audience.
- Add shredded carrot to tuna salad the next time you make a batch.
- Serve fresh fruit as a dessert.
- Beware of sweetened drinks. Sodas and sports drinks are high in calories, and too much juice—even with all its healthy vitamins—can quickly add too many calories to a child's diet. For older children, it's best to drink no more than 8-to-12 ounces of juice per day. Healthier alternatives include low-fat milk and water.

Sources: Center for Prevention and Health Services, National Business Group on Health; www.keepkidshealthy.com; www.foodfit.com

Back to Basics

California's schools find themselves uniquely positioned to teach kids the value of proper nutrition and exercise—before it is too late.

Charlotte Neumann MD, MPH, worked in Africa on and off for nearly 20 years, studying the impact of malnutrition on children, as a professor of community health sciences and pediatrics at the UCLA School of Public Health. So when a series of newspaper articles in the mid-1990s revealed chronic hunger among Los Angeles schoolchildren, Neumann took action.

“A lot of us who’d worked in Africa thought, ‘If this is happening right under our noses, we’d better take a look,’” Neumann recalls.

The professor and her team set up a study to assess the prevalence of malnutrition at 14 schools in low-income areas of the city. When the results were in, the information was startling. But not in the way investigators had expected.

There was indeed hunger among children in Los Angeles—about 11 percent of the study’s population, mainly recently arrived immigrants, showed signs of moderate malnutrition. But there was a much starker problem: obesity. According to the research, between 30 percent and 40 percent of the 900 second- through fifth-graders studied were obese. For many, the problem started as early as second grade.

“We knew obesity was there, but we had no idea that it started so early or was so prevalent,” Neumann says.

The revelations led Neumann and her colleagues to spearhead the development of Nutrition-Friendly Schools and Communities, a comprehensive school-based obesity-prevention effort funded by the Centers for Disease Control and Prevention. The program seeks to alter the school environment through improved diet, nutrition education, increased physical activity, and the involvement of educators, parents and community groups.

The initiative is just one of a wide range of obesity-directed programs that have sprung up in California schools in recent years. Because schools ideally represent both a laboratory and

HOW MUCH PHYSICAL ACTIVITY DO CHILDREN NEED EACH DAY?

Children Ages 2 to 6

An accumulation of more than 60 minutes, and up to several hours every day, of age- and developmentally appropriate activity is ideal. Some activity each day should be in periods lasting 10-to-15 minutes or more and include moderate to vigorous activity.

Older Children and Teens

An accumulation of more than 60 minutes and up to several hours every day of play, games, sports, work, recreation, physical education or planned exercise is ideal. Teens should engage in at least three sessions of physical activity per week that require moderate or vigorous exertion.

Source: Center for Prevention and Health Services, National Business Group on Health

sanctuary in the fight against obesity, educators, public health experts and others are scrambling to maximize the opportunities for change in the classroom and cafeteria.

All admit it won’t be easy. A recent study by the Davis-based California Center for Public Health Advocacy found that childhood obesity statewide jumped 6.2 percent between 2001 and 2005, to 28 percent of the population. The overall percentage was much higher in many communities—42 percent of the children in the Central Valley farm town of Wasco, for example, were found to be overweight. Edie Jessup, director of the Fresno Metro Ministry’s Hunger and Nutrition Project, says the problem is particularly severe in San Joaquin Valley due to widespread poverty, limited access to healthy food, a reliance on fast food and limited access to health care.

Yet the state’s public health leaders see little choice but to hit hard in the one place where they have kids’ attention: schools. The chance to provide children with at least one nutritious meal a day, encourage physical activity, and induce behavioral changes early in life represents an unmatched opportunity, physicians say.

“The schools are critical, because you have control over what these kids are exposed to for at least part of the day,” says Melvin Heyman, MD, chief of pediatric gastroenterology, hepatology, and nutrition at the UCSF Children’s Hospital, and co-author





of *“Feeding Your Child for Lifelong Health.”* Heyman has devoted many years to getting better school lunches into San Francisco’s public schools.

“What you hope is that [the kids will] train their parents,” Heyman says. “The focus has to be on prevention, because once kids are overweight, it’s much harder to get them to lose the weight than to avoid the problem in the first place.”

Creating roadmaps to health

The Nutrition-Friendly Schools and Communities program—an outgrowth of the UCLA malnutrition study—provides schools in the Los Angeles Unified School District with a flexible, low-cost roadmap for creating a positive environment for good health, says Michael Prelip, DPA, MPH, an assistant professor in the department of Community Health Sciences at the UCLA School of Public Health and the initiative’s co-principal investigator.

The effort focuses on strategies ranging from increasing parental involvement around health issues to healthy school lunches to integrating nutrition education in the school curriculum to written physical activity policies. A program liaison works closely with educators and parents at each of the program’s eight pilot schools to develop strategies based on available resources and preferences in the neighborhood.

Prelip says the objectives were designed to allow for implementation with a high degree of flexibility at minimal expense. Currently, the three-year-old program is targeting third- through fifth-graders at eight elementary schools in Los Angeles. “Policies are great at the federal, state, and district level, but without the buy-in and commitment of the local school community, those policies sometimes aren’t implemented the way people would like them to be,” he says.

Healthy eating as theater

One of the oldest school-directed initiatives in the state is Kaiser Permanente’s Educational Theatre Program. Now celebrating its 20th year, the program produces a variety of theatrical performances aimed at conveying information about nutrition, exercise, and conflict resolution in a fun and effective way. The “Zip’s Great Day” production, for example, uses

professional actors, dance, puppets, props, and audience interaction to teach first- through third-graders about healthy eating and activity choices.

The program is presented at a different California school every day of the school year. Since its inception in 1985, more than 3 million children have been exposed to the message, according to Regina Dwerlkotte, PhD, director of Kaiser Permanente’s Educational Theatre Program for Northern California.

“It’s very interactive,” Dwerlkotte says. “Zip, the main character, is guided by the children in the choices he makes about food. So the kids get to yell out the answers and even get up on stage at certain points. By the end of it, they’re just full of excitement about these issues.”

“The schools are critical, because you have control over what these kids are exposed to for at least part of the day.”

In Los Angeles, Kaiser Permanente is taking the educational theater concept a step further with a program entitled “The Amazing Food Detective.” Begun in the Montebello Unified School District in March 2005, the initiative combines interactive theater with three, one-hour workshops, and culminates with a family educational event. The approach is designed to drive home nutritional messages, involve parents and “inspire and empower children with the information they need to make better dietary choices in their lives,” says Carla Melendez, program coordinator.

Already, the program seems to be having an impact. Melendez says that when students at La Merced Elementary School learned the school was planning to sell cheesecake as a fund-raising activity, they complained to school officials on nutritional grounds. They even circulated

California’s New School Nutrition Standards

As a result of California legislation enacted in 2005, new standards now govern the nutritional content of snacks and beverages sold on public school campuses.

Snacks

By July 1, 2007, individually sold snacks in all K-12 schools may have no more than:

- **35** percent of its calories from fat (excluding legumes, nuts, nut butters, seeds, eggs, non-fried vegetables, and cheese packaged for individual sale).
- **10** percent of its calories from saturated fat (excluding eggs and cheese packaged for individual sale).
- **35** percent sugar by weight (excluding fruits and vegetables).

- **175** calories (in elementary schools).
 - **250** calories (in middle and high schools).
- An individually sold entrée may have no more than **4** grams of fat per **100** calories and not exceed **400** calories. Foods that do not meet the standards may be sold at least one-half hour after the end of the school day for fund-raising purposes

Beverages

By July 1, 2009, only the following beverages can be sold in high schools during school hours (standards already apply in elementary and middle schools):

- Fruit- and vegetable-based drinks that are at least **50** percent fruit juice without added sweeteners.

- Drinking water without added sweeteners.
- Milk products including **2**-percent, **1**-percent, nonfat, soy, rice, and other similar non-dairy milk.
- An electrolyte replacement beverage that contains no more than **42** grams of added sweetener per **20**-ounce serving.

Funding School Breakfasts

In addition to the above standards, **\$18.2** million in funding will be provided for fruits and vegetables for school breakfast programs.

SOURCE: California State Legislature



Childhood **Obesity**

a petition among fellow students calling for the cancellation of the sale. The school administration quickly complied.

"The kids felt they knew enough to speak up and say this was not right," Melendez says. "It was a great example of what the program can do."

You are what you eat

Meanwhile, in the Berkeley Unified School District, the passion and commitment of a single citizen has spawned one of the most unusual strategies for teaching children to eat healthier foods.

In 1995, Alice Waters, founder of Berkeley's renowned restaurant Chez Panisse, proposed that a garden be created on an unused one-acre lot at Martin Luther King Jr. Middle School. The school's principal agreed, and today the Edible Schoolyard program flourishes under the watchful eye of dedicated student gardeners. The school's students plant organic fruits and vegetables, tend the garden, harvest the produce, and learn to cook healthy and delicious meals in an adjacent, refurbished kitchen.

Next year, the program will begin providing breakfast and lunch daily for the school's 1,000 students, and in so doing, will effectively replace the standard fare of the National School Lunch Program with healthier meals. The initiative will soon be expanded to the other 15 public schools in Berkeley.

"What we've learned is that if kids grow it and cook it, they'll eat it," says Waters. "We're showing that education and a hands-on sensory experience will bring kids into a new relationship with food. This isn't about telling kids to eat certain things and exercise more. It's about engaging them in a fundamentally new way."

Beyond teaching kids to essentially re-learn the American eating habits of the past half-century, schools are a venue for at least one, and in many cases, two nutritional meals per day. Like Berkeley, school districts across the state are working to bolster the National School Lunch and School Breakfast programs to support healthier diets. But it's an uphill struggle.

Nutritional minefields

Though schools are required to meet rigorous nutritional standards to qualify for federal lunch and breakfast funding reimbursements, the proliferation of alternative on-campus eating options vying for students' lunch money—including snack carts, vending machines, ala carte portions of branded products like pizza and fund-raising foods such as candy bars—all combine to create a nutritional minefield for kids.


Yet the wheel is slowly turning. The Los Angeles Unified School District, the nation's second-largest district with more than 735,000 students, in 2004 implemented bans on soft drink and junk food sales at all district schools. Because dollars from traditional soda and snack food sales represented a significant income stream for the schools, the district has committed to making up the lost revenue with new, healthier beverage and snack agreements and through other means, according to Olga Quinones, communications officer for the district.

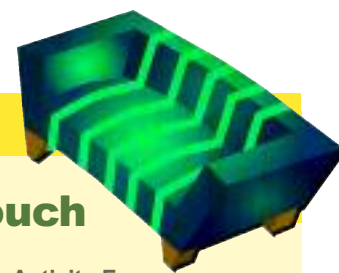
Following the district's lead, Gov. Arnold Schwarzenegger in September 2005 signed separate bills that will increase nutritional standards for foods sold in California schools and ban the sale of soft drinks on all school campuses by 2009. Once in place, the food standards will be among the most stringent school nutritional guidelines in the country.

Jessica Reich, director of food quality policy with the San Francisco-based California Food Policy Advocates, says that the focus in individual school districts is starting to shift toward making school meals healthier in the wake of the new nutritional standards and soda ban.

"The bottom line is that school meals are good, but they could be better," Reich says. "People talk a lot about the importance of nutrition education, but we shouldn't forget that every time a child eats on a school campus, that's nutrition education. So the question becomes, what do we want to teach them? It's an opportunity that we should make the most of."

Despite the intense focus on the role of schools in the fight against obesity, Prelip of UCLA cautions that educators can not and should not be forced to wage the battle alone.

"Asking a teacher to both teach and become a nutrition educator is expecting a lot," Prelip says. "One of the challenges is working closely with schools to help them develop capabilities in this area, because their funding is very limited. They certainly have to be part of the solution, but they shouldn't be responsible for all of it. It's going to take each of us working together—the community, the health care system, industry and especially parents—to turn the problem around." 



Getting Off the Couch

Helping Kids Get Exercise by Making Activity Fun

Kids today don't get as much exercise as their parents did a generation ago. Due to safety concerns, they rarely walk or bike to school, and many can't even play in their own front yards without supervision. So how can parents make sure their kids still stay active?

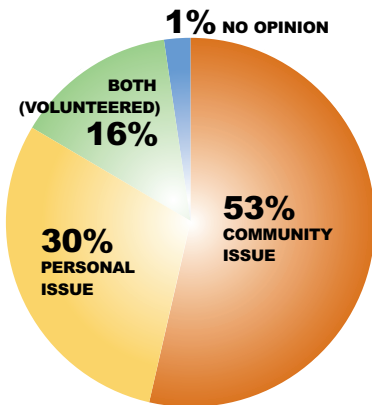
- Set limits on sedentary activities.
- Give activity a positive spin. Focus on what to do, when possible, instead of what not to do.
- Encourage children to play hard for at least 30 to 60 minutes every day.
- Family nights are great ways to be active and social. Go for walks, ride bikes or play games.
- Walk instead of driving, whenever possible.
- Let your kids help you in the garden.
- Encourage kids to play sports or join a club.
- Use a pedometer every day to motivate your child.
- Look for free neighborhood activities. Take your family to the park or pool.
- Find activities that your child enjoys, and he/she will be more likely to sustain it.
- Encourage active games like hide-and-seek or dancing to music.
- Limit TV and video games to no more than one hour a day. There's a strong relationship between hours spent before the TV and overweight children.
- Remove the TV from your child's bedroom.
- Avoid using the TV or computer as a baby-sitter. The short-term benefit of a few minutes to yourself is not worth the long-term effect on your child's screen habits—many of which are formed in the toddler years.
- Instead of letting kids watch TV or play video games while you cook dinner, have them help prepare the meal. This will also help you teach your children about food.
- Turn household chores into a game, encouraging your kids to play along.
- Remember, small steps count. Park a little further from the supermarket.
- After dinner, go for a family walk. Aside from the exercise, it gives you quality family time.

Source: Kaiser Permanente

Finding the **Political Will**

Public health advocates are promoting an activist role for government at all levels in the fight against childhood obesity.

QUESTION: IS OBESITY PREVENTION A PERSONAL OR SOCIAL RESPONSIBILITY?



Source: Center for Prevention and Health Services, National Business Group on Health

Fresh from a highly publicized "fitness walk" with hundreds of children, news reporters, and cycling superstar Lance Armstrong in tow, Gov. Arnold Schwarzenegger took the podium on a sunny Sacramento afternoon last September 15 and committed his administration to a campaign to "terminate obesity in California once and for all."

"Over the last decade," he said, "Californians have gained 360 million pounds. One out of three kids—one out of four teenagers—is overweight or at risk."

With that, he invited the state's legislative leaders to join him in signing what he termed "the toughest school nutrition reform in the nation"—especially a bill by Sen. Martha Escutia (D.-Whittier) establishing rigorous nutritional standards for food and beverages sold at the state's 10,000 public elementary, middle and high schools (see sidebar, pg. 13).

Bouyed by the enthusiastic crowd, Schwarzenegger, who has built his own megastar status on the strength of physical fitness, stressed the summit was only the beginning. He went on to promise a campaign to fight childhood obesity through more health screenings, other preventive services, more parks and recreation areas for exercise, and more school gardening programs, among other actions.

A controversial role for policymakers

The governor's vision of government leadership in fighting obesity and promoting healthy lifestyles was greeted with enthusiasm by many, skepticism by some, and outright opposition by others. The core debate swirls around the relative importance of personal vs. societal responsibility, government activism, and economic interests. The role of government in public health issues has often been controversial, but few issues have had the potential for greater discord than the question of how public policy should best address such personal issues as diet and exercise.

Many policy experts compare the problem to the long, litigious battle over smoking, in which governments at the federal, state and local levels ultimately acted on behalf of public health against smokers' self-interest and the tobacco companies. But "tobacco's not something that is necessary for life. Food is," says Scott Gee, MD, a Kaiser Permanente pediatrician and childhood obesity expert. "You can't demonize the food industry. They have to be part of the solution."

Personal rights vs. public health

Without a clear public enemy, governments, school boards, city councils, and local zoning boards have been caught up in a tug-of-war between those who advocate legislative and regulatory solutions and those who proclaim the traditional American bywords of freedom, choice, and individual rights.

"With smoking, there was a lot of discussion about the rights of smokers being infringed upon," says Linda Rosenstock, MD, MPH, dean of the UCLA School of Public Health. "We're starting to hear some of the same things about fighting obesity—'we shouldn't infringe upon the rights of individuals.' But when so much of what's happening with regard to obesity is truly beyond the control of the individual, it's a mistake to focus on the individual level of behavior."

Like many public health advocates, Rosenstock looks to a partnership of stakeholders, including the food industry, to forge workable solutions. "The medical and public health systems can't



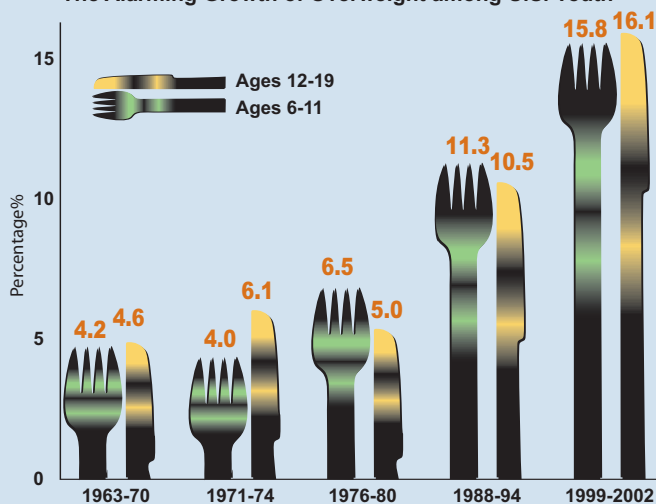
The Childhood Obesity Crisis

What Does it All Mean?

Is this generation of youth really more overweight than previous ones? The answer is a resounding yes. The percentage of overweight children and teens in the United States has more than tripled since the 1970s, and growth in overweight since the 1980s is particularly alarming. This is true for both boys and girls. The rise in the number of youth who are overweight, combined with the health problems that excess weight causes, have led public health officials to classify overweight as an epidemic.

An overweight teen is 70 percent to 80 percent more likely to become an obese adult than a teen who has a healthy weight, which puts him or her at greater risk for future health problems such as heart disease, stroke, diabetes, certain cancers, arthritis, depression and other diseases.

Gaining Weight is Gaining Steam The Alarming Growth of Overweight among U.S. Youth



Source: Center for Prevention and Health Services, National Business Group on Health

do it alone, but these interrelated pieces in partnership with industry, communities, and government at the local, state and federal level have a chance.” Nonetheless, she adds, “Governmental leadership is critical,” in terms of both education and regulation, “and without it we’re unlikely to see the kind of success we might otherwise achieve.”

Urging an activist role for government, Jonathan Fielding, MD, director of Public Health and health officer for Los Angeles County and a professor at the UCLA School of Public Health, notes the seriousness of the situation. “If trends continue, nearly 30 percent of L.A. county’s fifth-, seventh- and ninth-grade students will be overweight by 2010,” he says. “We must do much more than stock healthy foods in vending machines and ban soda from our public schools. We need to write policies that change community behavior and that alter public places to encourage physical activity.”

Grassroots and local activism

Kelly Brownell, a professor of public health at Yale University and director of the Yale Center for Eating and Weight Disorders, is among many public

health advocates who support interventions such as federal or state taxes on snack foods and beverages and federal regulations on food advertising to kids. But at a recent health policy conference on obesity sponsored by Kaiser Permanente, UC Berkeley, and the CDC, Brownell said he has little expectation that such policies would be enacted any time soon.

“Very little is happening in Washington that’s of a productive nature,” he said. “In contrast, very exciting things are happening at the grassroots level, such as school systems kicking out the soft drink companies, and edible gardens in Berkeley schools.” In fact, Los Angeles and San Francisco, the state’s largest school districts, both enacted stringent food and beverage regulations several years before the governor signed into law the new state regulations last September.

Project LEAN (Leaders Encouraging Activity and Nutrition), a partnership of the state Department of Health Services and the Public Health Institute, has awarded its “Bright Ideas” designation to dozens of large and small school districts and individual schools throughout the state for creating innovative and effective programs to promote better nutrition and physical activity. For example, at the Bret Harte Middle School in San Jose, a parent spurred a successful two-year effort to replace all soda, candy and other foods of minimal nutritional value with healthier snacks in the school store, vending machines, and cafeteria. Today, the school is proudly “junk-food free” and still earns money from food sales.

Too little, too late?

At the state level, California is widely recognized as one of the more progressive states in promoting better nutrition and opportunities for physical activity. But many state governments are placing a higher priority on obesity-related laws and regulations, with a high level of public support, as shown by public opinion surveys.

In 2005, 38 states considered or enacted legislation relating to nutritional quality of school foods and beverages, and at least 15 states enacted such laws, according to the National Conference of State Legislatures. Bills to require or increase physical education and activity in schools were considered in 35 states and enacted in at least eight. Thirteen states acted on bills to require BMI screening of students and they were enacted in at least two; Tennessee and West Virginia.

Yet public health advocates assert that the new level of government activism may be too little, too late. “Correcting the crisis must become a top priority for all California lawmakers,” says Harold Goldstein, director of the California Center for Public Health Advocacy (CCPHA), in releasing the center’s latest statistical analysis of childhood obesity last summer. The report found that obesity increased an average of more than 6 percent between 2001 and 2004 in 90 percent of the state’s Assembly districts.

At the federal level, obesity programs are too limited and siloed to have a significant impact, according to a 2005 report from the nonprofit Trust for America’s Health. The report, “*F as in Fat*,” found that overweight and obesity rates are still on the rise in every state but one (Oregon), reaching 64.5 percent of all adults.

“We have reached a state of policy paralysis in regards to obesity,” said Shelley A. Hearne, DrPH, executive director of the Trust. The report noted that although a majority of U.S. governors have launched anti-obesity programs, most are limited to public information campaigns.

Anronette Yancey, MD, MPH, an associate professor at the UCLA School of Public Health, says, in the end, neither policymakers nor any other single sector of society has prime responsibility for halting the epidemic. “Childhood obesity control must be a society-wide engagement,” she says. “Every business, every institution needs to look in the mirror and identify a few changes, great and small, that they can make today.”

Breaking the Chain

Youth from certain ethnic groups and low-income neighborhoods are at special risk of obesity and its complications.

“O

vercoming obesity has been the greatest challenge of my life,” says Feliciano Meneses, a sophomore at Santa Monica High School, “more difficult than facing a playground bully or trying to fit in.”

Looking back, attempting to recall the moment in fourth grade when he sensed something was wrong, Feliciano remembers climbing a flight of stairs and feeling completely out of breath. At age 11, Feliciano stood 4 feet, 8 inches tall and was about 40 pounds overweight. “I was so lazy that I wouldn’t even walk to the car to bring in the groceries,” he says.

Concerned about Feliciano’s general health and his labored breathing, his mother, Ester Lopez, took him to the nearby Venice Family Clinic in Venice, Calif., where he met Wendelin Slusser, MD, the lead physician for the clinic’s pediatric overweight initiative.

For the next three years, Feliciano came to the clinic every two weeks to see Slusser, who guided him through a program of behavioral change, including nutrition and exercise, and tracked his progress—not specifically to lose weight, but to improve his overall health.

Today, Feliciano, now 5 feet, 6 inches, and a normal weight for his height, still finds himself out of breath—as he crosses the finish line after sprinting 800 meters or running the high school mile.

“Based on our early research,” says Slusser, an assistant clinical professor of pediatrics at Mattel Children’s Hospital at UCLA, “we decided to address the health of our patients, not their weight. By emphasizing the well-being of children like Feliciano, we could better motivate families. to improve their nutrition and physical fitness.”

Focusing on health, not weight

Since 1970, the Venice Family Clinic has grown from a vacant dental office to the largest free clinic in the United States. Four hundred and sixty-two volunteer physicians and 285 residents from the David Geffen School of Medicine at UCLA’s residency program care for more than 21,000 of the area’s low-income,



uninsured, and mostly nonwhite patients each year. Addressing childhood weight issues play a large role in the clinic’s practice. While nationally, 16 percent of boys and girls age 2 to 19 years are considered overweight (by the Centers for Disease Control and Prevention definition), half the children visiting this primary health clinic are overweight.

The clinic’s health orientation to weight management is at the heart of a comprehensive clinician training program developed by Slusser and others. Called CHAT (Community Health and Advocacy Training), the five-year-old curriculum teaches UCLA’s pediatric residents and many other physicians a complete program of diagnosis, prevention, and treatment of overweight patients along the continuum of care, from birth through adolescence.

“Our goal is to train residents to treat the whole child,” says Alice Kuo, MD, PhD, director of the CHAT program. “Residents need to think about what a child’s life is like outside of the clinic. By understanding how a child lives in the context of the family, school, and community, residents can address the psychosocial and learning problems that can prevent them from reaching their full potential.”

Links to ethnicity and income

UCLA’s innovative approach to obesity and related health conditions at the Venice clinic is one way the state’s leading medical schools, large health plans, and caregiver organizations are struggling to come to terms with a virtual tidal wave of disabling chronic health problems among youth in certain ethnic groups and low-income neighborhoods. The most common underlying condition is overweight.

The California Center for Public Health Advocacy’s 2005 report on childhood overweight, “The Growing Epidemic,” found that, statewide, more than 35 percent of Latino children in grades 5, 7, and 9 are overweight, up about 2 percent since 2001. The report also found that nearly 40 percent of Pacific Islanders are overweight, up 5 percent since 2001. Those figures compare with rates of about 20 percent among white youth, 28 percent among African Americans, and 18 percent among Asians.

Other studies have found close links between the prevalence of overweight youth of all ethnicities and low-income neighborhoods, which nutritionists often describe as “food deserts.” Parents in such neighborhoods buy most of their groceries from convenience stores and gas stations, not supermarkets, consuming more junk food and less fruits and vegetables.

Antronette Yancey, MD, MPH, an associate professor at the UCLA School of Public Health, is working locally with the CDC-funded Racial and Ethnic Approaches to Community Health (REACH 2010) project, which has hired and trained community members to document the quality and variety of healthy food options available in low-income neighborhoods.

Her group has found that stores in such neighborhoods offer half the variety of fruits and vegetables as those in affluent communities and that, on average, the quality of produce on the shelves in low-income areas is significantly poorer. These neighborhoods also tend to have fewer supermarkets per capita, and a higher proportion of fast-food restaurants. Exacerbating matters, Yancey notes, are print, billboard and broadcast advertisements for unhealthy foods and beverages—cheap sources of comfort in managing lives that are highly stressful.

Pursuing **cultural competence**

“Obesity transcends all races and socioeconomic status, but it’s certainly more prevalent among certain groups,” says Scott Gee, MD, a Kaiser Permanente pediatrician who has launched a far-reaching program to train pediatricians in how to talk to young patients and their parents about being overweight in a “culturally competent” way.

“When you’re dealing with kids and weight, it’s extremely important to have the skills to do it properly,” says Gee.

Aware of the importance of culture in treating and educating ethnic fam-

ilies, the Venice clinic has incorporated a six-week weight-management program from Kaiser Permanente, called KP Kids (see pg. 10) that provides all instruction and materials, including sample menus, in Spanish.

Mala Seshagiri, a dietician and co-chair of Kaiser Permanente’s Culturally Competent Care committee in the San Francisco Bay Area, says clinicians are culturally competent “when they acknowledge cultural diversity, respect a patient’s beliefs and practices, and value interpersonal communication. It is not enough for a physician to tell the mother from a low-income neighborhood that her overweight child must stop drinking soda and start eating five portions of fruit and vegetables a day. The doctor needs to offer alternatives that work for the family.”

To help its physicians communicate effectively with families of different cultures, Kaiser Permanente’s Diversity Department has published a variety of culture-specific clinical care guides for various groups, including Latinos, African Americans, and Asians.

At the Burke Clinic in Los Angeles, a satellite of the Venice Family Clinic, Alma Guerrero, MD, a UCLA pediatric resident participating in the CHAT training, recently conducted a series of focus groups with 30 Latina mothers to hear their ideas about what causes obesity. Their answers surprised her. “As doctors, we use growth charts and body mass index to define when a child’s weight is unhealthy,” says Guerrero. “But Latina mothers use a completely different set of rules for deciding when their child’s weight is a problem,” defining health by the ability to run, play, and participate in other physical activities, she says.

Guerrero also teamed up with fellow resident Hilda Fernandez, MD, to film a segment on healthy nutrition on “Todobebe,” a Spanish-language Telemundo network TV program on pregnancy and early childhood health issues watched by nearly 2 million viewers.

“For me, this is the way medicine should be practiced,” says Guerrero. ▣

HELPING KIDS EAT HEALTHIER

It’s important to see healthier eating as a permanent lifestyle change, not as a short-term “diet.” The focus is total health, not simply weight loss. An overweight child who is active regularly and eating a balanced, healthy diet will benefit from these changes regardless of weight.

Eating Healthy:

- Provide breakfast every day, even if you are short on time. The National Weight Control Registry confirms that eating breakfast helps people maintain weight loss. Some good choices include: low-sugar/whole-grain cereal, low-fat milk, yogurt, fruit or whole-grain toast.
- Do not bribe or reward with food.
- Limit juice drinks, sports drinks, and sodas to no more than one can or small cup a day. Encourage your child to drink water.
- Offer five servings of fruits and vegetables every day (1 serving = 1 piece of fruit or 1 cup of vegetables).
- Take control of snacking by carrying your own preassembled bags of healthy snacks.
- When you shop, only go to the relevant aisles—not every aisle.
- You should be the one to decide when and where to serve meals and which foods to serve. Let your child decide whether or not to eat and how much to eat. There’s no need to finish everything on the plate.

- Eat meals together as a family—work around busy schedules to make it happen. Encourage conversation, sharing, and laughter at mealtime.
- Keep healthy foods your child likes within easy reach at home. Keep junk foods out of the house.
- Limit eating at fast-food restaurants to no more than once a week. Fast food tends to be high in salt, fat, and extra calories. Avoid super-sizing!
- Don’t watch TV while eating. Instead, sit around the table for some quality family time.
- Encourage your child to help with grocery lists, shopping, and cooking meals.
- Check in with your child’s school or day care center to make sure healthy, low-fat meals and snacks are provided. If not, pack nutritious foods for your child. Also, take it up with the school board—board members care about parents’ concerns.
- Because children do not normally overeat, you do not need to limit the amount of food they eat.
- Set a good example by eating healthier all the time.
- Don’t completely eliminate favorite goodies. Be realistic and just seek a more healthful balance.

- Remember: Baby steps collectively make a difference.

Offer more often:

- chicken, turkey, fish, beans, peas
- nonfat milk or yogurt, low-fat cheese
- unbuttered popcorn, bagels
- baked, boiled, broiled or steamed foods
- bread, tortillas, rice, pasta

Offer less often:

- hot dogs, bologna, bacon, sausages
- ice cream, cream cheese, chocolate milk
- butter, margarine, gravy, candy, granola
- pan-fried or deep-fat fried foods
- chips, cookies, pastries, French fries

SOURCE: Kaiser Permanente

Sugar Shock

Type 2 diabetes, an unhealthy byproduct of the childhood obesity epidemic, is on a sharp increase among teens.

Doctors in California have many reasons to be alarmed by the rising number of overweight kids, but none is more troubling than the dramatic increase in the number of children diagnosed with type 2 diabetes, which used to be rare in children. They see a dangerous sign that what is already the seventh leading cause of death in the United States is almost certain to become an even bigger problem as today's children grow up.

Unlike type 1 diabetes, which results when the body does not produce insulin, the hormone necessary to turn sugar into fuel, type 2 diabetes occurs when the body loses its ability to use the insulin it produces. And it is closely associated with a single factor: obesity. If a parent is obese or has diabetes, a child's risk for type 2 diabetes is even greater.

The number of people with type 2 diabetes worldwide has tripled since 1985. The percentage of children with this form of diabetes has risen even more dramatically, from less than 5 percent of child diabetics before 1994, to 30 percent to 50 percent in subsequent years, according to the National Institutes of Health. Obesity and a sedentary, fast-food-driven lifestyle are major factors.

In California, at least 12,000 teens currently are diagnosed with diabetes, but the number that has the disease and don't know it is much larger, according to researchers at the UCLA Center for Health Policy Research. Larger still is the number of children who are at high risk of developing diabetes, especially among African-Americans, Latinos, American Indians, and Alaska natives, according to UCLA researchers.

"Ten years ago, it was unusual to see type 2 diabetes in our pediatric clinic," says Stephen Gitelman, MD, director of the pediatric diabetes clinic at UCSF Children's Hospital and professor of pediatric endocrinology at UCSF. "Now, we see it in about one out of every four kids coming in."

Teen bodies normally struggle to process sugar when the additional hormones of puberty kick into action. Obesity complicates this by placing extra strains on the body, in particular, on the liver's ability to metabolize fats, proteins and carbohydrates and properly channel fuel to the rest of the body.



OVERWEIGHT YOUTH: A HEAVY BURDEN ON HEALTH

Overweight youth are at increased risk for a number of serious health conditions (comorbidities) compared to youth within a healthy weight range. And because overweight youth are at high risk of becoming overweight adults, they are in danger of serious weight-related health problems, such as various cancers and obstetric/gynecologic conditions, later in life. The following short-term complications of overweight youth are costing the nation years of healthy life and hundreds of millions of dollars in health care expenses.

Cardiovascular conditions

- High blood pressure
- High blood cholesterol
- Lipid disorders

Endocrine conditions

- Type 2 diabetes
- Insulin resistance
- Impaired glucose tolerance
- Menstrual irregularities

Orthopedic conditions

- Accelerated growth
- Bowed legs
- Hip disorders

Psychosocial conditions

- Depression
- Low self-esteem
- Substance abuse

Pulmonary conditions

- Asthma
- Sleep apnea

Source: Center for Prevention and Health Services, National Business Group on Health

"Increased delivery of fatty acids to the liver induces insulin resistance," says pediatric endocrinologist Anna Haddal, MD, PhD, of Mattel Children's Hospital at UCLA. Fat tissue deposited in the liver and muscles triggers this effect. This means that obese people cannot use insulin efficiently and need to make more insulin than normal to maintain normal blood glucose levels, she says.

Type 2 diabetes is often "silent" early on, says Vikram Kamdar, MD, an endocrinologist at Santa Monica-UCLA Medical Center. But anyone with warning signs, such as tingling toes and fingers, increased frequency of urination, unexplained weight loss, fatigue, and unusual thirst or hunger should be checked by a physician.

Childhood **Obesity**

People who develop type 2 diabetes face a lifetime of always having to watch what they eat, maintaining a serious fitness program, and, in many cases, taking medications to control blood pressure, cholesterol and other risky consequences. These are people who, for the rest of their lives, are at high risk for a host of health problems, from heart attack and stroke to blindness and loss of a limb.

“Type 2 diabetes is all about behavior,” says Colette O’Brien, NP, a certified pediatric nurse practitioner and certified diabetes educator at UCSF Children’s Hospital. “Behaviors are hard to change if you grow up with them. It will be a struggle for the rest of their lives, or their lives are going to be shortened.”

The rising number of diabetic kids and the dramatically increased risk among others is why California health care providers are working hard to educate families about prevention—of both overweight and diabetes in the first place and, among those who already have the condition, of its serious consequences. The fundamental elements of diabetes prevention are the same as for generally healthy people: maintain a good diet and exercise regularly. Getting people to adhere to these practices is more of a challenge.

“Kids don’t eat good food because people around them aren’t eating good food,” says Sobha Kollipara, MD, a pediatrician at Kaiser Permanente in Sacramento. Kollipara gets angry with parents who don’t take their children’s health seriously.

“Type 2 diabetes is all about behavior. Behaviors are hard to change if you grow up with them. It will be a struggle for the rest of their lives.”

“I don’t want any excuses. You don’t need a gym membership or a soccer team to be active. Set an example. That is the most important thing,” Kollipara says. “If a parent sits and watches TV and tells the kid to go out and play, that won’t work. Go out and play with them, and make good food choices.”

Kollipara puts this philosophy into practice with a Kaiser Permanente program for pre-diabetic 10- to 17-year-olds that she and her colleagues developed, called High Five for Health. Rather than focus on weight loss, the program leads kids who are at-risk for diabetes through an eight-week routine of games and other activities that help them incorporate healthy food choices and physical activity into their everyday lives. Monthly follow-up meetings are held for a year.

The program appears to make a difference. In the pilot period of the program, nearly half the kids lost weight and close to two-thirds showed improvement in insulin sensitivity, indicating lowered risk of developing diabetes.

But you don’t need the High Five program to implement healthy habits, she says. One easy change: Instead of rewarding kids with candy, ice cream or a trip to a fast-food outlet, make the reward a family soccer match, a visit to a park or some other kind of family physical activity, experts say.

“Children who develop diabetes at 10 or 12 will have complications of diabetes in their 20s or 30s,” says Kollipara. “There’s a real need to stop that whole process before it develops.”

THE SKINNY ON SUGAR AND FAT

The sugar lowdown

Whole or unprocessed foods such as fruit and milk contain natural sugars. However, many of today’s processed or prepared foods contain added sugars that often contribute additional calories and few vitamins or minerals. Many experts believe that the increased consumption of foods and drinks made with added sugars is a leading factor in the childhood obesity crisis.

Read food labels and limit the amount of foods that list these names as the first or second ingredient:

- Sugar
- Brown sugar
- Corn sweetener
- Corn syrup
- Dextrose
- Honey
- Fructose
- Fruit juice concentrate
- Invert sugar
- Glucose
- High-fructose corn syrup
- Malt syrup
- Maltose
- Molasses
- Raw sugar
- Sucrose
- Syrup

The healthy fats

Fat is an essential part of a healthy diet but it is important to understand which fats are good for the body and which are unhealthy. In general, unsaturated fats are healthier for the body than saturated fats. The following oils contain polyunsaturated fats and monounsaturated fats, which have a good effect on cholesterol:

- olive oil
- peanut oil
- corn oil
- soybean oil
- canola oil
- Another heart-healthy fat is omega-3 found in fish such as salmon, sardines, trout, mackerel and some other foods.
- flaxseed oil

The truth about trans fats

Most people understand that saturated fat is unhealthy and increases the risk for heart disease, stroke, cancer and other diseases. However, a relatively new fat has emerged that could be even more harmful: trans fat. Recent research has focused on trans-fatty acids in many processed foods, and found a direct relationship between diets high in trans fats and higher levels of “bad” cholesterol, and therefore an increased risk of heart disease. As a result, trans fats will be listed on food labels beginning this month. To protect your family from trans fats found in many processed foods, read food labels and avoid partially hydrogenated vegetable oil, shortening, and hydrogenated vegetable oil. At restaurants, ask which fats are used to prepare the food you plan to order.

Source: Center for Prevention and Health Services, National Business Group on Health

Nutrition Facts

Serving Size 1 cup (228g)
Serving Per Container 2

Amount Per Serving
Calories 250 Calories from Fat 110

	%Daily Value*
Total Fat 12g	18%
Saturated Fat 3g	15%
Cholesterol 30g	10%
Sodium 470mg	20%
Total Carbohydrate 31g	10%
Dietary Fiber 0g	0%
Sugars 5g	
Protein 5g	

Vitamin A 4% • Vitamin C 2%
Calcium 20% • Iron 4%

* Percent Daily Values are based on a 2,000 calorie diet. Your daily value may be higher or lower depending on your calorie needs.

	Calories:	2,000	2,500
Total Fat	Less than	65g	80g
Saturated Fat	Less than	20g	25g
Cholesterol	Less than	300mg	300mg
Sodium	Less than	2,400mg	2,400mg
Total Carbohydrate		300g	375g
Dietary Fiber		25g	30g

Calories per gram:
Fat 9 • Carbohydrates 4 • Protein 4

- **Serving**
- **Number of servings**
- **Nutrients in one serving**
- **Calories**
- **Total fat in grams**
- **Saturated fat in grams**
- **Cholesterol in milligrams**
- **Sodium in milligrams**
- **The “% Daily Value” shows how much of the recommended amounts the food provides in one serving.**
- **Here you will find the recommended daily amount for each nutrient for two calorie levels.**

Source: Center for Prevention and Health Services, National Business Group on Health

Executive Roundtable

How childhood obesity is challenging health care

Three of California's health care leaders discuss strategies for success in the battle to nurture a generation of fit and healthy youth.

Childhood obesity and overweight has reached epidemic proportions in the United States. The crisis is sure to have a ripple effect throughout the country's already overburdened health care system. Senior leaders from three California health care organizations examine how the nation got to this point and where we go from here.

How serious is the obesity epidemic? Is it comparable to other major public health issues, such as smoking?

DAVID A. KESSLER, MD, dean, UCSF School of Medicine: Smoking is still the No. 1 preventable cause of death in the United States. Obesity is not far behind. If you look at the range of medical conditions that obesity affects, it is truly astonishing—diabetes, elevated cholesterol, high blood pressure, stroke, gallbladder disease, asthma, osteoarthritis, and many cancers.

FRANCIS J. CROSSON, MD, executive director, The Permanente Federation: It is serious. While mortality rates attributed to obesity have recently been under debate, when we consider morbidity, we also see just how much quality of life is impacted by

prevent smoking, whereas high-calorie foods are cheap and abundant.

LINDA ROSENSTOCK, MD, MPH, dean, UCLA School of Public Health: It's a distraction to get lost in the interesting scientific debate about whether this epidemic causes three quarters or only half as much mortality as cigarette smoking. Whatever the actual answer, there is now credible evidence that unless there is a dramatic turnaround in the childhood obesity epidemic today's children may experience shorter rather than longer life expectancy than those of us who came before.

So then what could you say accounts for this dramatic increase?

CROSSON: We are now in a bigger-is-better mentality. We have also seen more and more absentee parenting, and food is becoming a substitute for other things. Our physical activity rates have stayed steady but we are eating more. We have also engineered activity out of everyday living. Physical education programs have been cut in schools, and kids are more often parked in front of the TV instead of outside running around. At the same time, high-fat foods are routinely available in schools, and studies

FRANCIS J. CROSSON, MD



Crosson is a pediatrician and executive director of The Permanente Federation, the national organization of the Permanente Medical Groups, which is the physician component of Kaiser Permanente.

DAVID A. KESSLER, MD



Kessler became dean of the UCSF School of Medicine and vice chancellor for medical affairs in fall 2003. He is a professor of pediatrics and epidemiology. Previously he was dean of the Yale University School of Medicine for six years,

and commissioner of the U.S. Food and Drug Administration from 1990 to 1997.

LINDA ROSENSTOCK, MD, MPH



Rosenstock is dean of the UCLA School of Public Health, a professor of Environmental Health Sciences in the School of Public Health and professor of medicine in the David Geffen School of Medicine at UCLA. She is a former director of the National Institute for Occupational Safety and Health (NIOSH).

the United States not too proudly leads our counterparts in the developed world; and, it likely reflects a number of factors, including genetic and physiologic factors, coupled with environmental factors such as increased food availability, decreased expenditure of energy due to more sedentary work, and environments that aren't conducive to walking or other forms of exercise.

KESSLER: At one level, the answer is simple—we're eating more and exercising less. A typical serving of French fries now might be three times larger than a serving 30 years ago. Even if you only look at the per-capita consumption of soda—basically sugared water with no nutritional value—it's

Obesity is the No.1 driver of increasing health care costs in the United States today.

being significantly overweight. We know from recent research that overweight children reported that their quality of life was on par with kids with cancer. That in itself is a stark statement. While there are similarities between smoking and overweight, there are a lot more environmental supports to

have also shown that increases in fruit and vegetable prices mean many families are less likely to afford good healthy foods.

ROSENSTOCK: We know several things about the epidemic: It came upon us very quickly; it is global, although one in which

dramatic. The average person consumes about 58 gallons of soda a year; 30 years ago the average was only 22 gallons, which is still quite a lot. But to me, the fascinating question is why are we eating more? That's something we're only beginning to understand.

As the leaders of some of the state's largest and most important health care systems, how do you see your roles in responding to this epidemic?

CROSSON: From very early on in a child's life, health systems need to begin to instruct parents about nutrition and healthy eating. There is also a need to take a public health approach for children and adolescents on childhood obesity. This will require partnerships with communities, schools, and other environments where kids can learn skills for healthier living. For instance, at Kaiser Permanente we're partnering with the CDC to examine evidence-based approaches to treatment and prevention, and through our community benefit program we're sharing our clinical expertise and weight management programs, like KP Kids, with community clinics. We also have an educational theater troupe that goes into the schools with entertaining plays about healthy living and weight management.

KESSLER: One of our jobs at UCSF is to understand more about the underlying biology of energy regulation—what makes a person eat and how that fuel is used. This research will likely produce new targets for innovative therapy.

ROSENSTOCK: Although the consequences of the epidemic fall squarely on the health care system, true solutions fall largely outside. As with other public health problems, we know that the most effective "treatment" for this epidemic rests with approaches that deal with populations and communities to prevent the problem before it starts, rather than with trying to solve an individual's obesity problem. Health care can play a major role in educating individuals about the risks of obesity, and, providing evidence-based approaches to combat it. But by the time an obese individual is in the health care system, we have already failed, and lost our greatest opportunity to deal with this very real and very large problem.

In terms of prevention and treatment interventions, who—or which institutions—are best placed to drive change?

KESSLER: Historically, doctors haven't focused on obesity, and they should be. There was a perception that doctors who used "diet drugs" for patients were charlatans. Thankfully that is changing. Doctors at UCSF offer a comprehensive range of services to treat obesity. That kind of commitment is necessary to help our patients cope with obesity and to prevent obesity in the future.

CROSSON: I agree. It took a combination of things to get us into this predicament. Everyone has a role to play in solving the problem.

ROSENSTOCK: We really need to consider approaches that go well beyond the medical

system to other critical partners, including public health, employers, workers and their representatives, governments at all levels, and communities and their organizations. We know from many other health problems that the best approach is to focus on social and physical environments and aim to prevent or decrease those conditions that are causing the problem in the first place.

If the causes of obesity are not simply genetic and physiological, but also social and environmental, what are some of the ways that health organizations can play "outside the box" of the hospital or clinic?

KESSLER: First, I think it is very important to understand the science. Obesity results from a combination of genetics, physiology, environmental and cognitive forces. We have faculty who are focusing on each of these areas—from studying earthworms to analyzing health policy.

CROSSON: Health care organizations need to focus on ways to deal with non-acute, long-range health issues. We need to learn from other successful social-change movements and work together to mobilize components such as advocacy, coalition building/partnerships, economic, environmental and policy change, and govern-

mental involvement. Our members cannot be healthy if they live and work and go to school in communities that are unhealthy.

ROSENSTOCK: We have to think about working with others who are not our everyday natural partners. We know that trying to get individuals to change behavior, although of some value, pales in effectiveness to approaches that deal with organizational- or community-level efforts. So in addition to being good role models, health care organizations have a role to play in partnering with others to advocate for good policy. We have a leadership role educating the public and decision-makers about the

Unless there is a **dramatic turnaround** in the **childhood obesity epidemic**, today's children may experience **shorter rather than longer life expectancy** than those of us who came before.

extraordinary health and economic consequences of obesity and what can be done to reduce them.

How have you experienced the obesity epidemic in your own professional life, either as a clinician or as a health care leader? Has it impacted your own professional career?

KESSLER: Never mind the professional lives. I've been 50 pounds heavier. I have suits in many different sizes.

CROSSON: I practiced pediatrics for more than 20 years. During that time childhood obesity went from an unusual "case" to a daily experience among the patients in my office. I had never seen a case of type 2, or "adult" diabetes in a child during my training and early practice years, but by the 80s such a thing was not uncommon.

We hear a lot about the effectiveness of patient self-care regarding conditions like obesity. But do overweight people today have the tools they need to effectively manage their weight?

KESSLER: Absolutely not. Simply telling people to eat less and exercise more doesn't

work. There are a few tools available today to treat obesity, but the fact is that they are only moderately effective. The problem is that we still don't know what drives people to overeat.

ROSENSTOCK: We need to tailor our approaches to individuals, recognizing that what works for one may be of little benefit to another. But we also have to recognize this is hard and very complicated work for an individual, and if we focus our energies on trying to change individual behavior one at a time, we're doomed to failure. Education is a start, but we need to gear our interventions to practical and societal steps that make eating badly less likely, getting appropriate exercise more likely, and not simply relying on the magic bullet—the miracle drug or cure—which almost never arrives, and when it does, is never quite as good as originally advertised.

CROSSON: We are doing a better job of creating options for patients to help them effectively manage their weight, but we still have a lot to learn. We do know that having one program to address overweight/obesity is likely to have little impact. We realize the value of working with each patient to identify strategies that will work for them.

Many believe that individuals should be held primarily accountable for the behaviors that result in conditions like obesity. How much is it a matter of individual behavior vs. social, environmental, or economic and cultural factors?

ROSENSTOCK: If we blame an individual, rather than look for societal factors and interventions, we will wait a very long time before

“If we blame an individual, rather than look for societal factors and interventions, we will wait a very long time before we turn around this staggering epidemic.”

we turn around this epidemic. Here the lessons of cigarette smoking are very relevant. It was the steps we took to make it more difficult to purchase and consume cigarettes that had the greatest impact, not the ones that targeted getting individuals to stop smoking, particularly when leaving it to interactions in the medical care system.

CROSSON: It's difficult to apportion what matters the most if you advise a patient to eat more fruits and vegetables but they can't afford them, or there are no good grocery stores in

“It took a combination of things to get us into this predicament. Everyone has a role to play in solving the problem.”

their neighborhood that stock these items. The cultural role that food plays, and the perception of portion size in different cultures, cannot be underestimated. Kids also need help with understanding cause-and-effect issues.

KESSLER: Obesity is not just a matter of personal willpower. Eating behavior is complex. It is triggered by accessibility, variety, and palatability of foods. Environmental, genetic, physiologic, cultural, economic factors and learned behaviors are all involved.

What is the appropriate role for government in the obesity epidemic and what are some of the effective ways that it could respond?

KESSLER: We worked hard when I was at FDA to make information, especially the macronutrient content of food available on the Nutrition Facts panel of all packaged foods. In some ways, that has shifted the problem more to restaurants. Getting out more information to consumers is always useful.

CROSSON: The government needs to provide help to those who require public assistance to get their health care. There are also numerous obesity-related issues that could become legislative or regulatory issues—such as the situation whether airlines can charge extra for morbidly obese travelers is a possible legislative issue. Should hospitals be required

to have a certain percentage of oversize beds or oversize commodes? That's a regulatory issue. The government has a very big role here.

ROSENSTOCK: I believe it is critical. We need national leadership and courage to tackle the forces that are all too comfortable with the epidemic. There are those who profit from this epidemic. We have to recognize this reality and move beyond that. This means having the courage to stand up to economically vested interests, while recognizing that partnering with business and other sectors to craft a myriad of interventions—at local, state and national levels—is needed.

Are you optimistic or pessimistic? What are the most positive signs of change, and what are the biggest obstacles?

CROSSON: In the four years Kaiser Permanente has been addressing obesity in a nationally coordinated initiative we have seen a lot of very positive progress. We are training our clinicians to have better communication with patients in regard to obesity; we have tools to support the member and the clinician in motivating behavior change; we have opened a two-way dialogue with patients, asking them how we can improve their experience; we have increased the number and types of interventions we offer across BMI range, age, and disease burden. I am optimistic that emerging partnerships will strengthen and grow to provide an even more robust approach to obesity.

ROSENSTOCK: I'm an optimist by nature. That we're having this discussion is a good sign. We can't afford to be complacent and we surely could be doing a lot more than we are now.

KESSLER: Until we understand what drives us to overeat, we won't be able to control this huge public health problem. Unfortunately, I see little reason for optimism at this point. As my former colleague Kelly Brownell, director of the Yale Center for Eating and Weight Disorders, has said, we live in a “toxic environment.” □

Resources

The following web-based resources are good starting points for additional information on childhood overweight and obesity, including information on nutrition, physical activity, and on-line and community-based weight management programs.

- > **American Academy of Pediatrics**
www.aap.org
- > **American Dietetic Association**
www.eatright.org
- > **California Project Lean**
www.californiaprojectlean.org
- > **California Center for Public Health Advocacy**
www.publichealthadvocacy.org/
- > **California's 5-a-Day Program**
www.dhs.ca.gov/ps/cdic/cpns/ca5aday/
- > **California Healthy Cities and Communities**
www.civicpartnerships.org/
- > **California Obesity Prevention Initiative**
<http://www.dhs.ca.gov/ps/cdic/copi/>
- > **CDC's Division of Nutrition and Physical Activity**
www.cdc.gov/nccdphp/dnpa/obesity
- > **CDC's Fit4Life**
www.bam.gov/fit4life
- > **Kaiser Permanente**
www.kaiserpermanente.org/thrive/
- > **Kidnetic**
www.kidnetic.com/
- > **Kidshape**
<http://www.kidshape.com/>
- > **National Business Group on Health**
<http://www.wbgh.org/>
- > **National Heart Lung and Blood Institute**
http://www.nhlbi.nih.gov/guidelines/obesity/ob_home.htm
- > **TV-Turnoff Network**
www.tvturnoff.org/
- > **UC-Berkeley Center for Weight and Health**
<http://nature.berkeley.edu/cwh/index.html>
- > **UCLA Healthcare**
www.healthcare.ucla.edu
- > **UCSF Children's Hospital**
<http://www.ucsfhealth.org/childrens/>
- > **UCSF-National Adolescent Health Information Center**
<http://nahic.ucsf.edu/>

CONTRIBUTORS

- > This publication was produced by a team of writers, editors, clinical consultants and reviewers at Kaiser Permanente, the University of California, San Francisco, and the University of California, Los Angeles Healthcare.
- > Clinical consultants and reviewers included: William Caplan, MD, Kaiser Permanente Care Management Institute (CMI) director of Clinical Strategy; Trina Histon, PhD, Kaiser Permanente CMI project co-director for the Weight Management Initiative; Scott Gee, MD, medical director, Prevention and Health Education, Kaiser Permanente Northern California; Robert Baron, MD, MS, vice chief of General Internal Medicine, UCSF School of Medicine, and director of the UCSF Adult Weight Management Program; and Robert Oye, MD, vice chair for Clinical Services, Department of Medicine, David Geffen School of Medicine at UCLA.
- > In addition to the contributions of freelance writers Bonar Menninger and Tom Ulrich, the editorial team included, from Kaiser Permanente: Jon Stewart, Alexandra Matisoff-Li, Mike Lassiter, and Guy Stoddard (consultant); from UCSF: Douglas Levy, Janet Basu, and Carol Fox; from UCLA: Roxanne Yamaguchi Moster, Pattie Cuen, and Judi Goodfriend. Doug Ponte is the art director, designer, and illustrator of the publication.

To download a copy of this special report,
go to: www.kp.org/childhoodobesity

