Can Teenagers Save America?
Making Adolescent Obesity
Public Health Priority Number One

Robert Pendergrast, MD, MPH
Associate Professor, Pediatrics
Georgia Health Sciences University

Sponsored by the University of
Arizona College of Medicine at the
Arizona Health Sciences Center

Goals and objectives
- List examples of social movements with youth leadership
- Describe the economic consequences of current trends in obesity
- Describe a successful clinical approach to youth obesity prevention/treatment
- Name a community-level intervention that has helped prevent/treat youth obesity

Overview
- Social change starts with youth
- We can't afford obesity as a nation
- Youth obesity predicts future health care costs
- Potential solutions

Teens as a force for social change
- Examples of youth movements
- Youth advocacy and activism in the current obesity crisis
- The failure of adult leadership

obesity and diabetes as a threat to our national security and economy

“childhood obesity isn’t just a public health threat; it’s not just an economic threat; it’s a national security threat as well.” First Lady Michelle Obama
Health consequences of obesity

- Coronary heart disease
- Type 2 diabetes
- Cancers (endometrial, breast, and colon)
- Hypertension
- Dyslipidemia
- Stroke
- Liver and Gallbladder disease
- Sleep apnea and respiratory problems
- Osteoarthritis
- Gynecological problems (abnormal menses, infertility)

Costs to our nation

- Costs attributed to both overweight (BMI 25–29.9) and obesity (BMI greater than 30): medical expenses accounted for 9.1 percent of total U.S. medical expenditures; in 2008 dollars, these costs totaled about $147 billion. Approximately half of these costs were paid by Medicaid and Medicare. (CDC data)

Obesity a threat to national security

- Retired military officers gave Congress a report titled “Too Fat to Fight.” 37 percent of Americans ages 17-24 are too overweight to enlist in the military.
- “We are calling on Congress to pass new child nutrition legislation that would (a) get the junk food out of our schools; (b) support increased funding to improve nutritional standards and the quality of meals served in schools; and (c) provide more children access to effective programs that cut obesity.”

Maps showing 1980 and 2008 age-adjusted percentage of adults who are obese and physically inactive.
The “Diabetes Belt”

CDC data
- Overall, healthcare costs for overweight and obese individuals are 37% higher than for people of normal weight, adding an extra $732 to the healthcare bill of every American.
- Obesity is associated with a 36% increase in inpatient and outpatient spending and a 77% increase in medication costs. This compares with only a 21% and 28% increase in these costs for current smokers.

Costs of Childhood Obesity
- No studies attempt complete calculation of lifetime costs of childhood obesity.
- Only a few cost-effectiveness studies of childhood treatment done support nutritional intervention as a target.
- “Some evidence that childhood obesity prevention might be successful in combining health gains with cost savings.”
  

Obese kids likely to become obese adults

Obesity and Chronic Disease Epidemiology are linked:
- Chronic Diseases are the Leading Causes of Death and Disability in the U.S.
- Obesity: 1 in every 3 American adults is obese and almost 1 in 3 youth between the ages of 6 and 19 is obese (BMI > 95th percentile of the CDC growth chart).
- 7 out of 10 deaths among Americans each year are from chronic disease. Heart disease, cancer and stroke account for more than 50% of all deaths each year.
- Diabetes continues to be the leading cause of kidney failure, nontraumatic lower-extremity amputations, and blindness among adults, aged 20-74.

CDC data
- Estimated diabetes costs in the United States, 2007: $174 billion
- Total (direct and indirect): $174 billion
- Direct medical costs: $116 billion
- After adjusting for population age and sex differences, average medical expenditures among people with diagnosed diabetes were 2.3 times higher than what expenditures would be in the absence of diabetes.
- Indirect costs: $58 billion (disability, work loss, premature mortality)
CDC data
- 1 in 10 Americans has diabetes now
- Estimated in 2050, between 1 in 5 and 1 in 3 Americans will have diabetes. (assuming current trends continue)
- Birth cohort of year 2000: lifetime risk of diabetes, 32.8% (males) and 38.5% (females) (Hispanic females 52.5%)

Costs of obesity at three levels
- **Individual:** by limiting personal opportunity (some due to illness/disability, some workplace bias)
- **Workplace:** (assuming the obese are employed), costs borne by employers due to lost productivity, absence, underperformance, and higher insurance premiums.
- **Local, state, and national governments,** where programs compensate for or cover some of the private and workforce costs of illness and unemployment.

Crippling international economic competitiveness
- “By dragging down rates of productivity and siphoning off resources that could otherwise be invested in education, technology, social improvements, and private capital formation, obesity and diabetes hobble even robust economies, such as those of the U.S. and China.”

Epidemiology and economics: heading for the cliff edge

Health costs as percent of GDP: 1980 - 2040

Federal Government Debt
- WE CAN'T BE OUT OF MONEY. WE STILL HAVE PAPER LEFT!!!

White House Council of Economic Advisors, 2009
Economics
- Preventive public health is cheaper than high tech treatment of obesity related morbidity
- “a high ratio of specialists reduces social efficiency, in fact, both the trend toward doctor density and a rising ratio of specialists boost medical expenditures more than they reduce mortality. In other words, there is a diminishing return from increases in this most-expensive, labor-intensive service.”
  - Professor Emeritus Harold W. Winters, U.C. Berkeley

Solutions: “begin with the end in mind”
(thanks Stephen Covey)
- A population with normal BMI
- Everybody stays physically active

Getting to a normal BMI
- Means to an end:
  - A better Farm Bill? Get sweet drinks out of schools! Stop marketing sweets on kids TV shows? Support CSA and locally grown foods!
  - Encourage urban gardens and teaching how to grow food (plants, chickens, fish) to schools and communities, support breastfeeding.

Physical activity goal
- Means to an end
  - urban design, sidewalks, and walkable mixed use development; get PE back in school at all grades

Examples that have worked
- Clinical setting
  - motivational interviewing, not prescriptive persuasion
  - Especially with teens

Tools: Exercise Rx from www.ExerciselMedicine.org

Motivational Interviewing for Dummies
- Definition: Motivational interviewing is a directive, patient-centered counseling style for eliciting behavior change by helping patients to explore and resolve ambivalence.
  - resolution of ambivalence is its central purpose, and the counselor is intentionally directive in pursuing this goal.

Motivational Interviewing for Dummies

- **The spirit of motivational interviewing**
  - Motivation to change is elicited from the patient, and not imposed from without.
  - It is the patient's task, not the counselor's, to articulate and resolve his or her ambivalence.
  - Direct persuasion is not an effective method for resolving ambivalence.

Motivational Interviewing for Dummies

- Ambivalence: being in two minds about a particular behavior regarding its present time advantages and present or future harms
- Discrepancy: recognition of the difference between one's current values and behaviors and one's future goals.
- The physician's task is to assist patients to explore these issues and come up with their own ideas for resolving discrepancy.

Negotiating behavior change via the transtheoretical model

- Prochaska and DiClemente’s model has been tested for smoking cessation, weight loss, exercise behavior, and various other behaviors to improve health.
- Counseling patients based on this model yields greater success because you are counseling patients specific to where they are in the stages of change.

Stages of Change

- Precontemplation - Not ready to change
- Contemplation - Thinking about change
- Preparation - Getting ready to make change
- Action - Making the change
- Maintenance - Sustaining behavior change
- Relapse or Recycling - Slipping back to a prior behavior; Reentering cycle of change

Examples that have worked

- Community settings and schools
- Corporate wellness with a family model
- Health care institutions leading
- How does mass social change begin?
  - (per Malcolm Gladwell, *The Tipping Point*):

Conclusions

- Today's youth may have a very compromised quality of life, in health and economically, as adults, because of obesity and its consequences
- They need to know.
- Costs of inaction are disaster
- Action will be needed long before the government can agree on a plan.