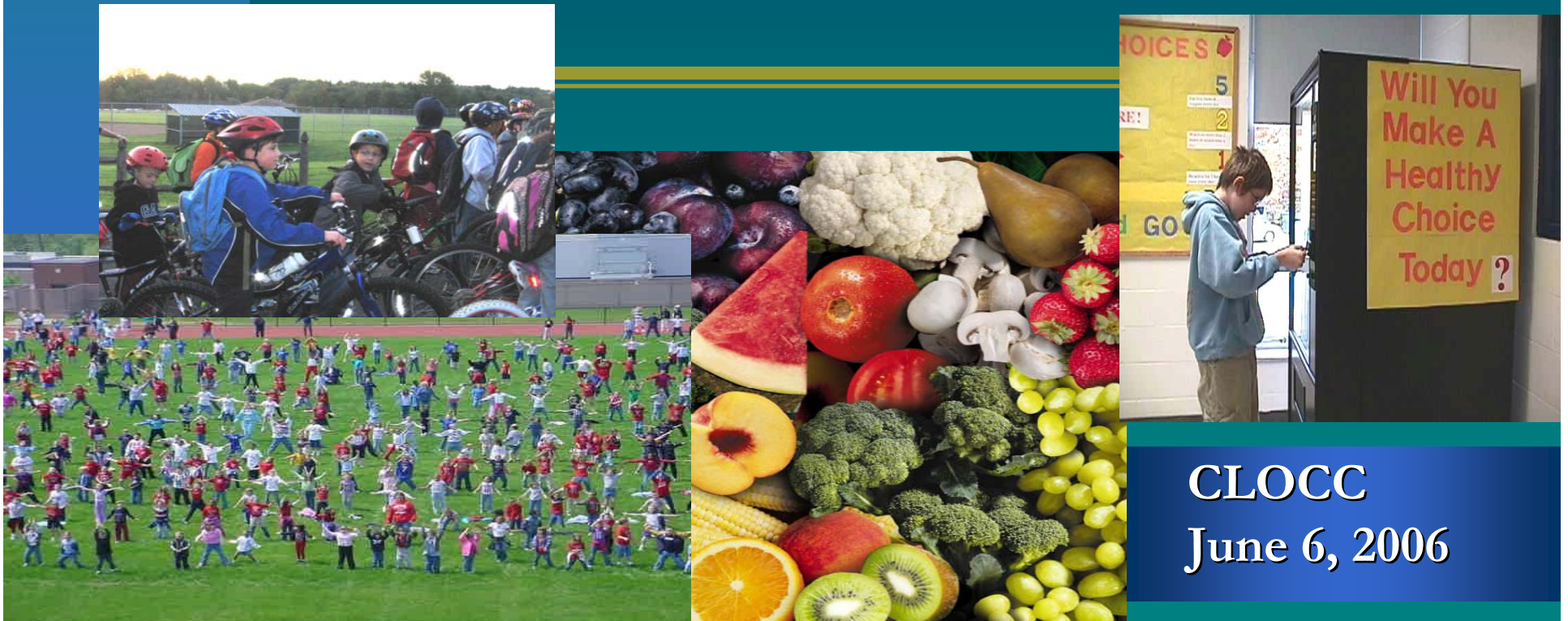


# New York State's Approach to Fighting Childhood Obesity

Barbara A. Dennison, MD

New York State Department of Health



CLOCC  
June 6, 2006

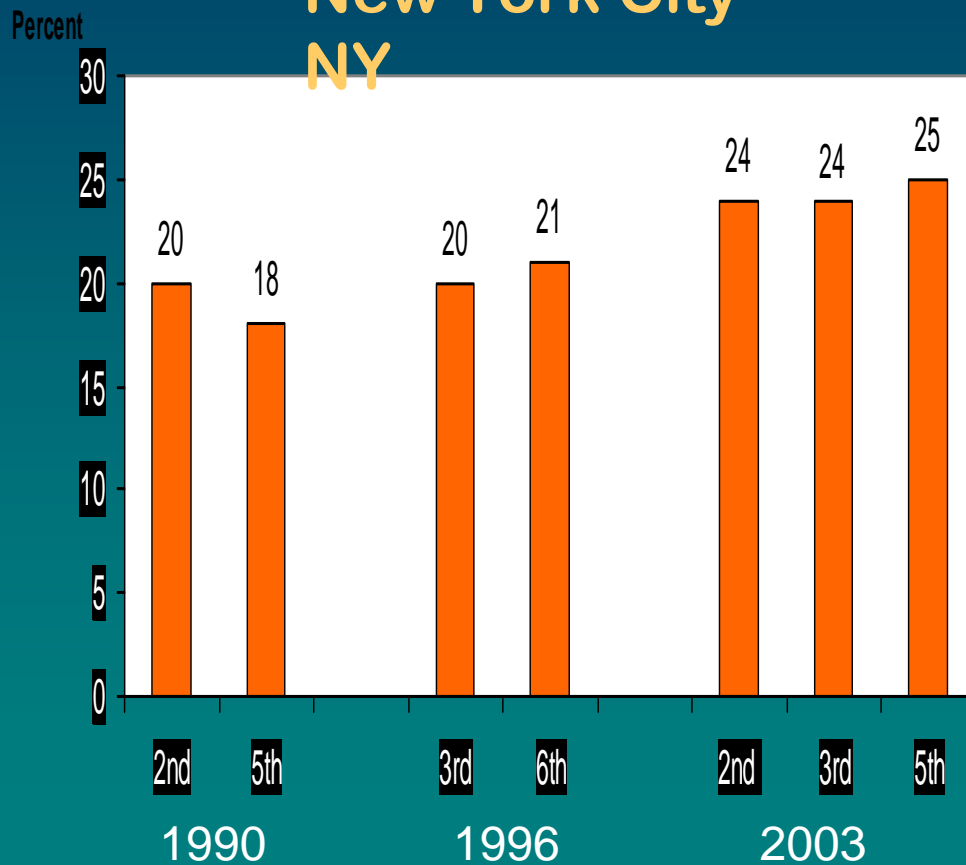
# The Problem

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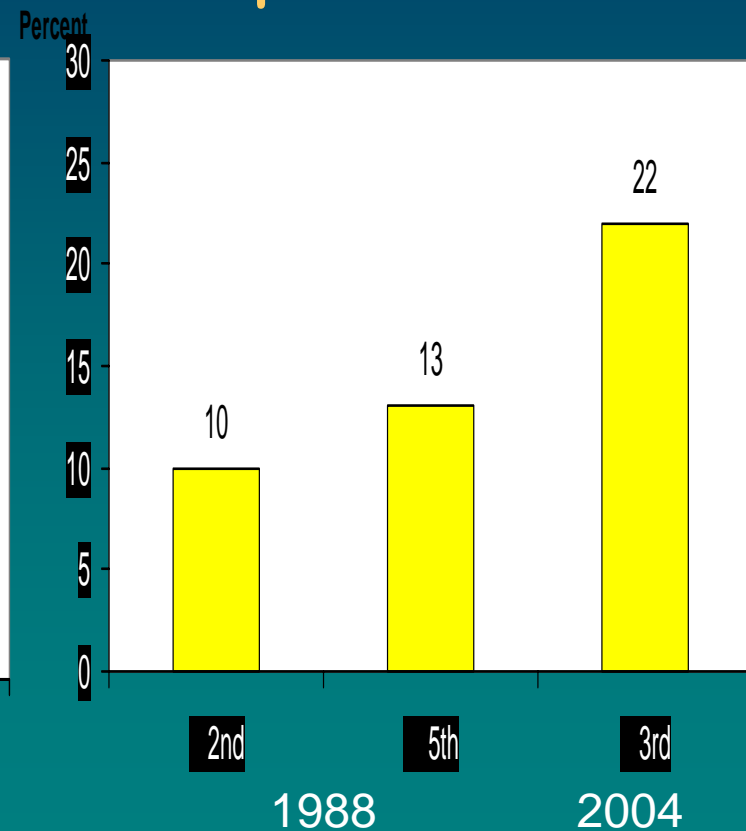
- The obesity epidemic affects all ages, even infants and children.
- In NYS, about 1 million youth are overweight, and an additional 900,000 are at-risk of overweight.
- Overweight and obesity are not just cosmetic problems, but are associated with significant morbidity during youth and increased mortality as an adult.

# Trends in overweight among NYS Youth Grades 2-5, 1988/1990 - 2003/2004

## New York City NY



## Upstate



# NYS DOH's Obesity Prevention Efforts

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- 1988, Community Healthy Heart Programs
- 1997, Public Health Food and Nutrition Programs
  - Eat Well Play Hard
- 2003, received CDC grant for “Obesity Prevention”
  - Build obesity infrastructure, hire staff, expand capacity within NYSDOH
  - Develop NYS Strategic Plan
- 2003, received grant for Steps for a Healthier NY
  - Broome, Chautauqua, Rockland, Jefferson counties
- 2005, Governor's *Activ8Kids!* initiative

# NYS's Efforts to Fight Obesity

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- Focus on Children
- Public Health Strategies
  - Guided by Science, Evidence, Promising Strategies
  - Implemented Step-wise, Circularly
- *Activ8Kids!*
  - Target Key Behavioral Outcomes
  - Across Settings

# Why Focus on Children?

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- Evidence suggests that obesity and its risk factors – poor diet, physical inactivity and TV viewing -- begin to be established during childhood.
- Childhood overweight/obesity and the associated health risks persist or “track” into adulthood.
- There is growing public recognition and political will to do “something” to protect children from the obesigenic environment.

# NYS Legislation to Fight Obesity

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- School District Child Nutrition Committees recommended
  - 2004
- Childhood Obesity Prevention Program
  - 2003
  - amended 2005
    - ❖ Governor's *Activ8Kids!*
    - ❖ Funded: \$3 million first 2 years

# Public Health Strategies: A Guide to Priorities

---

- **Inform, educate & empower people**
  - Increase awareness / perception of overweight and obesity as a major public health threat
- **Monitor health status**
  - Increase early recognition of overweight
  - Enhance surveillance and data collection
- **Develop policies and plans**
  - Build infrastructure and enhance public health response
- **Mobilize community partnerships**
- **Enforce laws and regulations**
- **Evaluate effectiveness, accessibility**
- **Research for new insights & innovative solutions**



# Increase Awareness of Obesity as Public Health Problem

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- *Activ8Kids!* Bike Ride and Schools Recognition Event
  - Proclamation by Governor Pataki
  - Events held at schools throughout NYS
- Educational training (12 regions of NYS)
  - School nurses and physical education teachers about childhood overweight
- Joint Letters issued by Commissioners Novello (Health) & Mills (Education) to school administrators, school nurses, teachers
  - Call to Action
  - School Wellness Policy



# NYS Governor Pataki's *Activ8Kids!* Initiative

## Focus on Children

- Target Three Behavioral Outcomes
  - Eat **5** or more vegetables and fruits
    - Only 1 serving as juice
  - Engage in at least **1** hour of physical activity per day
  - Reduce television and other screen time to no more than **2** hours daily

# The Overweight/Obesity Epidemic: Calls for a Paradigm Shift

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Individual  
Responsibility



Environmental  
Change

Treatment



Prevention

# Change Perception

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- Overweight and obesity are not just an individual's problem, rather obesity is a significant public health threat
  - ❖ Perception is related to how much risk is “dreaded”\*
  - ❖ Obesity is not contagious, like a virus, but can “catch it” from obesigenic environment
- Beating the obesity epidemic requires public health solutions

\*WHO , The World Health Report: Reducing Risks, Promoting Healthy Life, 2002

# Public Health Strategies: A Guide to Priorities

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# Increase Early Recognition

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- For every epidemic, early identification of those affected leads to better control
- Childhood overweight is rarely diagnosed early by healthcare providers
  - Use of Body Mass Index percentiles leads to earlier diagnosis
- More than 75% of parents don't recognize that their child is overweight

# Increase Early Recognition

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- Pediatric Overweight Screening and Treatment Toolkit
  - Developed with AAP & AAFP
  - For Pediatricians and Family Physicians
- Screening for Adolescent Overweight and PA/Nutrition Counseling added as QI
  - 2004: Pilot (NYS Office of Managed Care)
  - 2006: Managed Care Quality Assurance Reporting Requirement (QARR)

# Increase Early Recognition and Management of Pediatric Obesity

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- RFA to Establish three Centers for Best Practices in Prevention and Reduction of Childhood Overweight and Obesity
  - Prenatal / Early infancy
  - Pre-school age
  - School age
- Centers are required and funded to collaborate with professional societies to involve their membership
  - e.g., ACOG, AAP, AAFP, MSSNY



# Expand Monitoring / Surveillance

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- To define childhood obesity epidemic, it is essential to have data
  - First question: What is the prevalence?
  - At the local level, state level
- To determine if epidemic is getting better or worse, and what factors might be affecting the change
  - Need to assess changes, monitor program implementation, determine associations and causal pathways

# NYS Legislation

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## Childhood Obesity Prevention Bill

Chapter 58 , Laws of New York (S3668, A6842, public health law passed in 2003, and amended in 2005 to read:

*“The childhood obesity prevention program shall include...developing screening programs for overweight and obesity for children aged two through eighteen years, using body mass index (BMI) appropriate for age and gender...”*

# Proposed NYS Bill S472-A

## Increase Screening & Surveillance

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- **Modify School Health Certificate**
  - School entrance and grades 2, 4, 7 & 10
  - Add BMI plus Weight Status Category (based on BMI percentile)
- **Require Schools / School Districts to complete a survey from the State Commissioner of Health**
  - Report students' weight status data

# Public Health Strategies: A Guide to Priorities

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- **Inform, educate & empower people**
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# Build Infrastructure and Public Health Response

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- Increase Capacity
  - Build infrastructure
    - ❖ Committed, effective Leadership
    - ❖ Public-private Partnerships
  - Garner support for policy, environmental, legislative changes
  - Increase Funding
- Policy and Environmental Change
- Regulation and Legislation

# Focus on School Wellness Policies

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- Promote assessment (School Health Index)
  - \$1,000 per school (N=363 schools)
  - Funded Contractors (N=600 schools)
- Provide Training for 750 Facilitators
  - In collaboration with *Action for Healthy Kids*
- Develop *Activ8Kids!* Nutrition and Physical Activity Best Practices toolkit (N=3800 schools)
- Provide Mini-grants up to \$6,000 to implement improvements to nutrition and physical activity environment (N=80 schools)

# NYS Local School/School District Wellness Policy Changes

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- Foods and Beverages
  - Develop guidelines or criteria
  - Exclude certain foods/beverages
  - Limit use as rewards
- Physical education and activity
  - Increase minutes per week (120 min/week)
  - Increase frequency → daily
  - Increase access, availability and options
  - Increase intensity
- Limit TV/video viewing time

# NYC Department of Education School Nutrition Policy

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- Established a district contract for vending machines in schools (public buildings)
- Only foods approved by the NYC DOE can be sold and machines are on timers
  - Only water and 100% fruit juice in vending
- Penalties for Vendors who supply unapproved foods or beverages
- Meal standards exceed USDA regulations
  - Only low-fat milk for school meals



# Focus on Preschool-age Children

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- Improve Nutrition Policies & Practices
- Partner with Public Nutrition Programs
  - Child and Adult Care Food Program
  - Food Stamp Nutrition Education (FSNE)
  - Hunger Prevention Program
  - Special Supplemental Nutrition Program for Women, Infants and Children (WIC)
    - Increase fruits and vegetables
      - Farmer's Markets
      - Vouchers specific for F & V
    - Make low-fat milk the norm (over 2 years)

# Focus on Child-Care Centers

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- Promote Assessment
  - Nutrition and Physical Activity Policy Self-assessment in Child-care (NAP SACC)
- Provide Training
  - NAPSACC: Obesity, Nutrition, Physical Activity, Staff Wellness and TV Viewing
  - Increase Physical Activity
    - SPARK Early Childhood Curriculum
  - Decrease TV/Video Viewing
    - Fit 5 Kids Curriculum
    - TV Turnoff

# NYC Proposal

## Amend Article 47, NYC Health Code Applies to Group Day Care in NYC

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- Television, video & other visual viewing
  - Shall not be used for children under 2 years
  - For children 2 years and older, shall be limited to no more than 60 minutes per day of educational programs or programs that actively engage child movement
- Physical Activity
  - Require at least 60 minutes per day
    - ❖ even when the weather is inclement

# Public Health Strategies: A Guide to Priorities

---

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# Beating Obesity Epidemic

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- Medical Community
- Education Community, NYS PTA
- Business Community
  - Employers, Insurers, Worksites
  - Food Industry, “Big Food”
  - Mass Media, Marketers
- Researchers (Universities, Industry)
- Government - local, state, federal and international policy makers & legislators
- General Public, Broader Society

# Pending NYS Legislation to Fight Obesity

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- Screen children for overweight (Health Examinations); Report data to DOH
- Assess diabetes risk & test school children
- Prohibit sale of minimally nutritious foods/beverages in schools
- Increase school PE requirement
- Farm-to-School Law
- Tax soda, certain foods, videos, movies
- Require nutrition information in restaurants
- Include coverage for medical nutrition Rx
- Increase biking & walking paths

# Public Health Strategies: A Guide to Priorities

---

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# Evaluation of Schools' Initiatives

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- Child Weight Status (BMI Categories)
- School Health Index
- School Wellness Policy and Survey
- Initiatives
  - DOH/NYC/City-supported Initiatives
  - Partner-supported Initiatives
    - ACS, AAPHERD, YMCA, RWJ, AHA, Alliance for a Healthier Generation
  - Locally-supported Initiatives



# Sweet Beverages and Obesity



AJX2E3 Alamy Images



A1BXF8 Alamy Images



# Sweet Beverages and Obesity

## Rat Studies

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- Rats given sugar-sweetened water plus rat chow consumed more total calories and gained more weight than rats given rat chow and plain water.
- Rats drinking the sweetened water decreased their intake of rat chow, but not enough to fully compensate for the calories in the sugar-water solution.
- Sucrose, glucose and fructose solutions had comparable effects on reduction in chow intake and increased weight gain.

Sclafani A. Dietary Obesity. In: Obesity. Phila, PA: Saunders, 1980, pp 166-181.

# Sweet Beverages and Obesity

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- A meta-analysis of 25 years of studies showed that compensation for calories consumed in the form of liquid is less complete than for calories consumed in the form of solid food.\*
- Total energy intake and body weight increased in people given 2 to 4 sugar-sweetened drinks daily for 3 weeks, but decreased when they were given diet drinks for the same period, relative to those given no such drinks.\*\*

\* Mattes RD. *Physiol Behav* 1996; 59: 179-87.

\*\* Tordoff MG, Alleva AM. *Am J Clin Nutr* 1990; 51: 963-69.

# Sweet Beverages and Obesity

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- Consumption of sweet drinks
  - soda (not diet) -- sweetened ice tea
  - Hawaiian Punch, lemonade, Kool-aid, fruit drinkassociated with increased BMI.\*
- Change in sweet beverage consumption associated with increase in BMI and increase in obesity incidence.\*
- RCT: Substitution of Non-caloric drinks for sweet drinks → reduction in BMI in Intervention vs. Control (significant for upper tertile of baseline BMI).\*\*

\* Ludwig, DS, et al. The Lancet 2001; 357: 505-508.

\*\* Ebbeling, et al. Pediatrics 2006; 117: 673-680.

# Nutritional Content of Fruit Juice

(Per 8 Fluid Ounce Serving)

	Apple	Orange	Grape	Pear
Energy (k cal)	117	112	154	196
Fructose (g)	13.9	11.5	21.0	21.3
Glucose (g)	6.2	13.2	17.2	6.3
Sucrose (g)	4.2	1.7	0.0	6.0
Sorbitol (g)	0.6 - 1.2	0.0	0.0	4.5 - 5.5

Minnesota NDS, Version 6; USDA Oct. 1986; J Assoc Anal Chem 1988; 71:789-94.

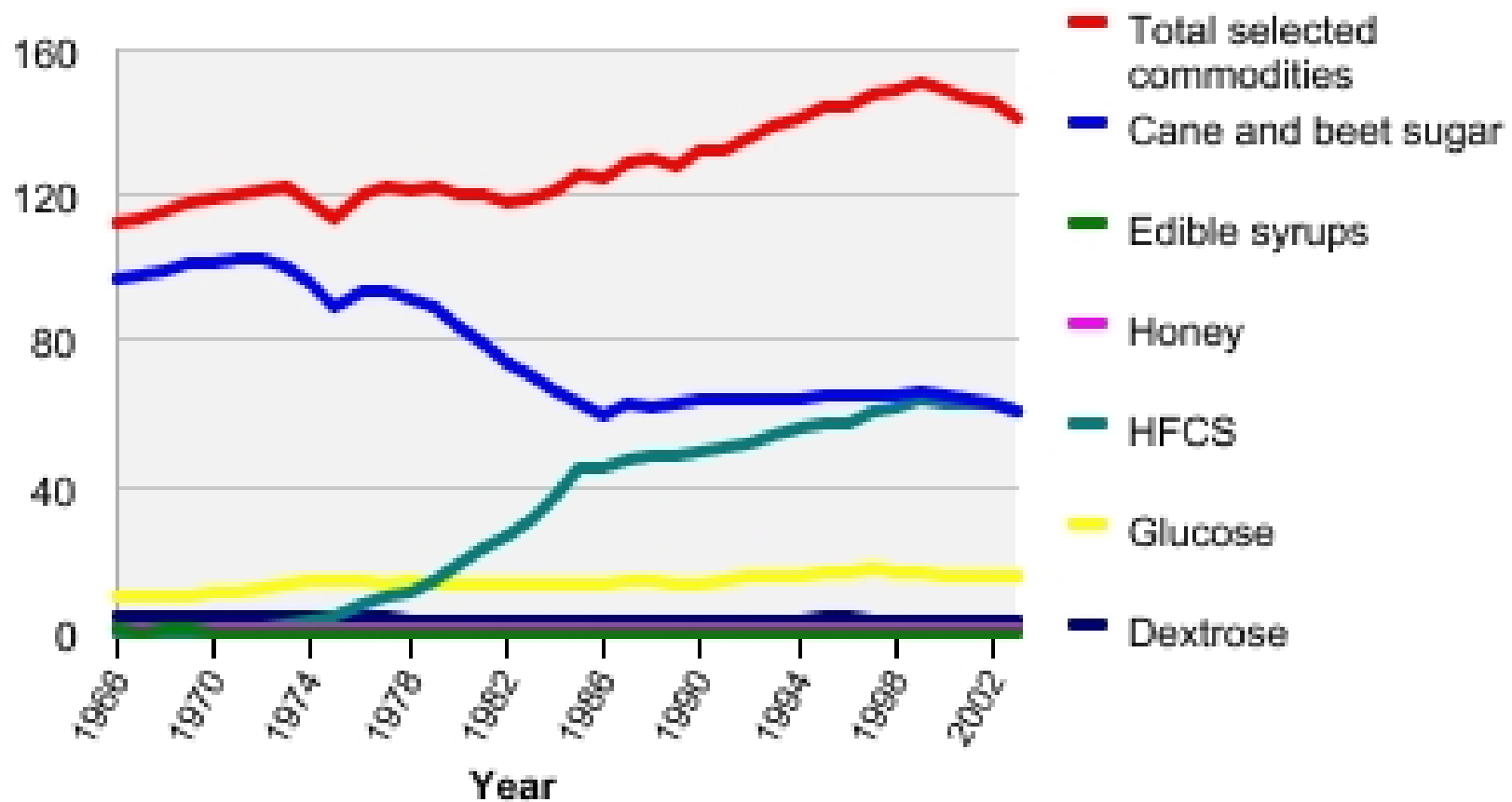
# Nutritional Content of Sweeteners

(Percent of Total)

	Sucrose	Corn Syrup	HF Corn Syrup	Conc. Apple	Conc. Grape
Fructose	0	42	55	48	55
Glucose	0	50-52	40	21	45
Sucrose	100	0	0	14	0
Other	0	10-12	5	17	0

## U.S. per capita food consumption *Sugar and sweeteners (individual)*

Dry weight, pounds per capita per year

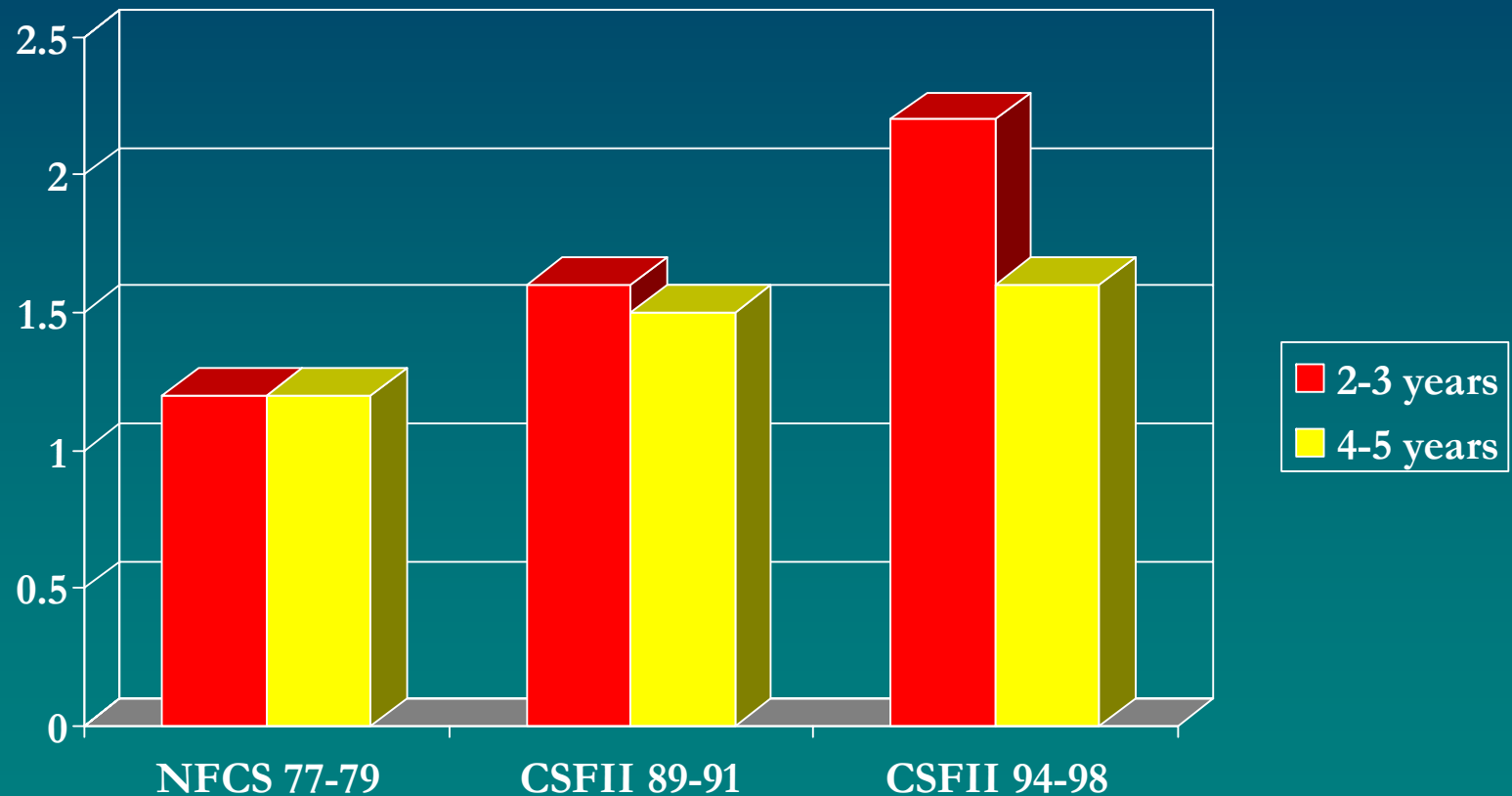


HFCS stands for high fructose corn syrup. Calculated from unrounded data.

Source: USDA/Economic Research Service. Last updated Dec. 21, 2004.

# Increased Fruit Juice Intake

Servings/day



\*Kranz S, Siega-Riz, Herring AH. Am J Public Health 2004; 94: 1525-1530.



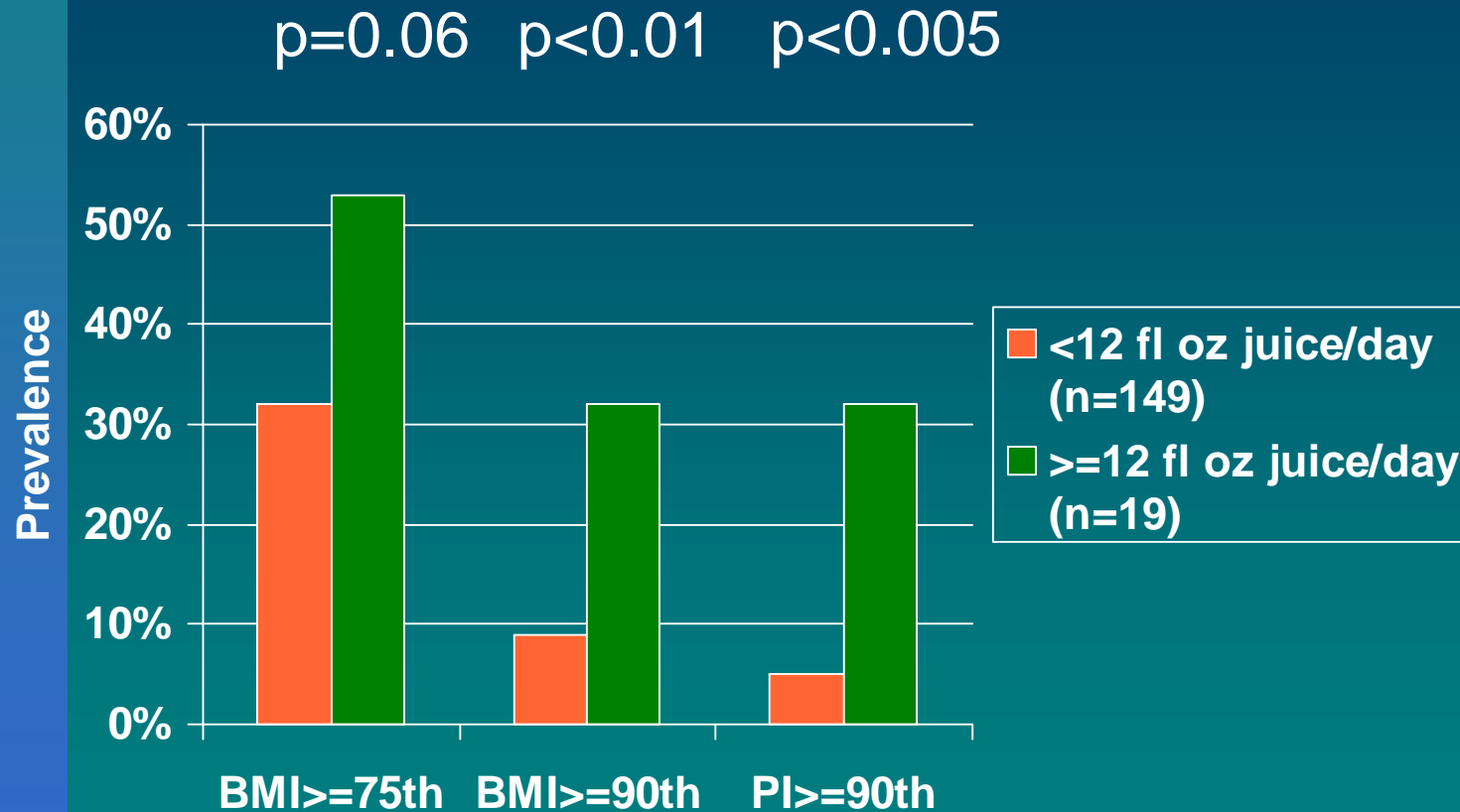
# Fruit Juice Intake

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- Most (90%) of infants drink fruit juice
- Age when fruit juice is introduced has become earlier: 8 months--> 3 months
- Preschool children consume disproportionate amount of fruit juice
  - Consume 58% of all fruit juice
  - Mean Intake
    - 6 oz per day (10% > 12 oz/day)
    - 2 to 3 servings of juice per day

# Fruit Juice Intakes and Overweight

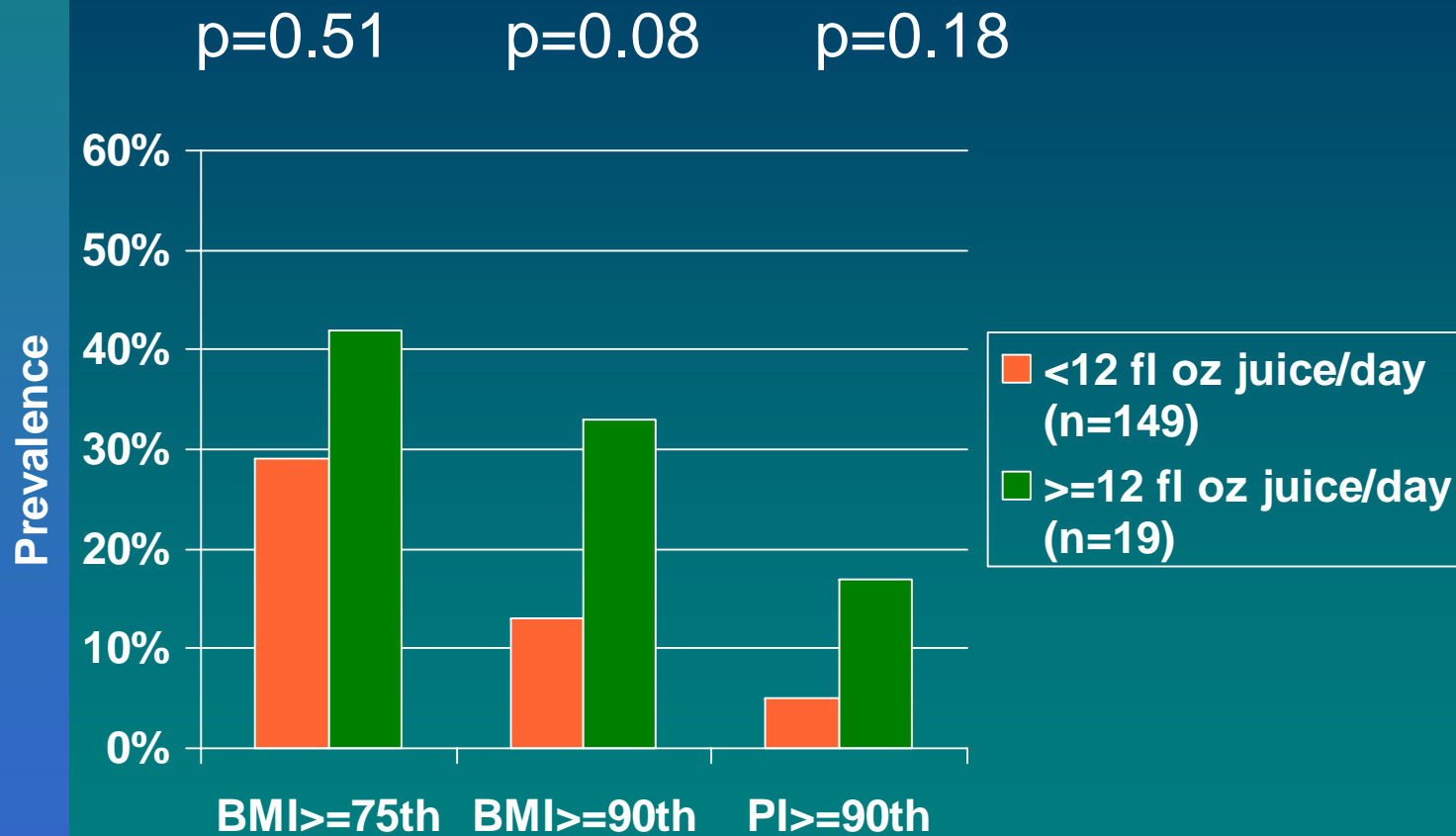
N=168, 2 & 5 years, 7 days of diet records



Dennison BA, et al. Excess Fruit Juice Consumption by Preschool-aged Children Is Associated with Short Stature and Obesity. *Pediatrics* 1997, 99:15-22.

# Fruit Juice Intakes and Overweight

N=105, 2 years, 1 recall and 2 days of diet records



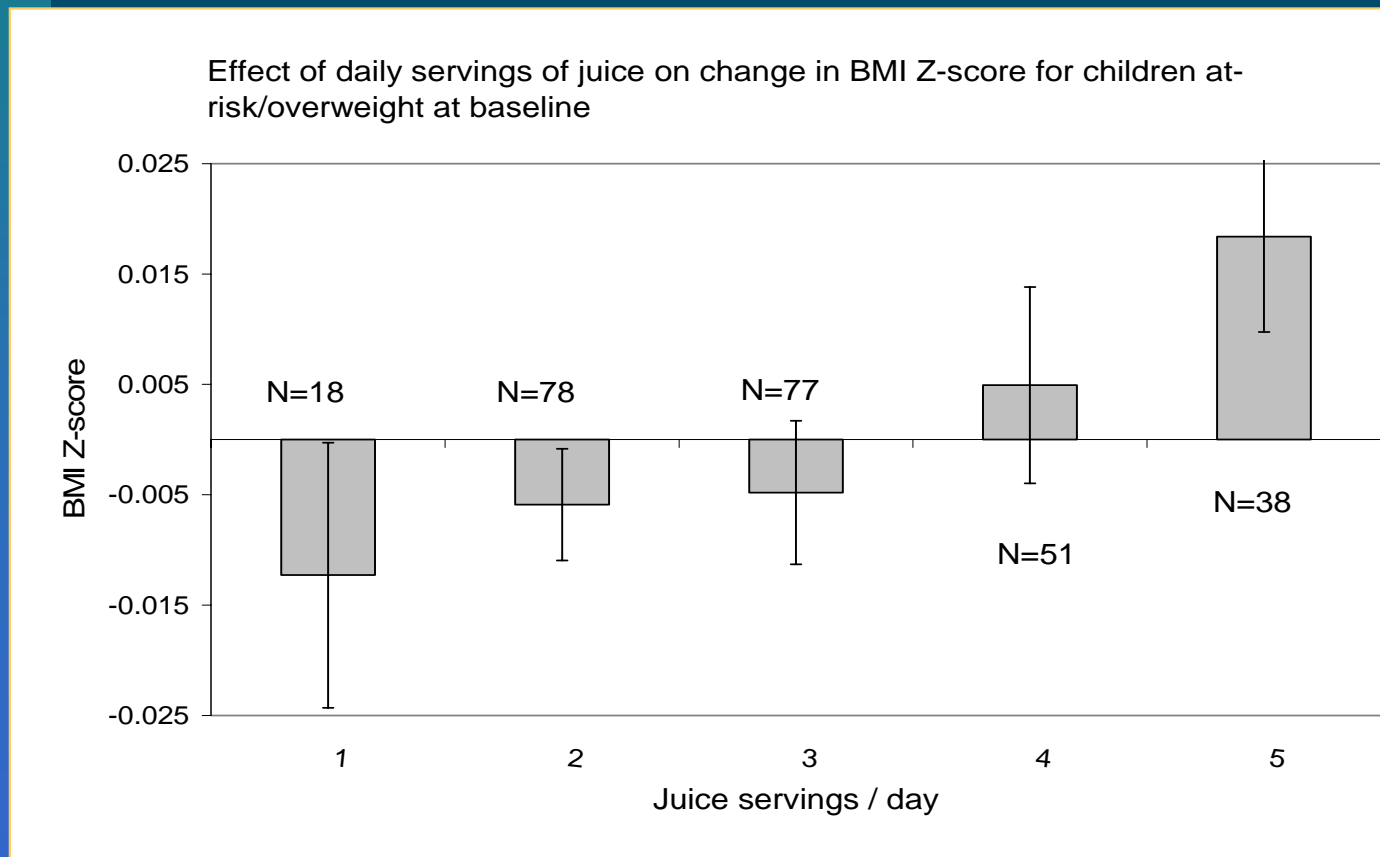
Skinner JD, et al. Fruit Juice Intake Is Not Related to Children's Growth. Pediatrics 1999, 103:58-64.

# Sweet Drinks & Increased Obesity

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- Children, BMI < 85<sup>th</sup> percentile
  - Positive association between sweet drink consumption (Soda, Fruit drink, Fruit juice) and 1-year development of obesity, but not significant
- Children, BMI > 85<sup>th</sup> percentile
  - Sweet drink consumption was significantly associated with development of obesity
  - Association held for sweet drinks excluding soda
- Children, BMI > 95<sup>th</sup> percentile
  - Fruit juice alone significantly associated with 1-year risk of developing obesity

# Fruit Juice and Increased Obesity Children, BMI >85th percentile



Faith, Dennison, Edmunds, Stratton. Pediatrics (Revision)

# Sweet Beverages & Obesity: Summary

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- Sweet Beverages
  - ❖ Sweetened soft drinks and other beverages
  - ❖ Juice drinks, Fruit punches
  - ❖ 100% Fruit Juice
  - Are associated with:
    - ❖ Increased total energy intake
    - ❖ Increased prevalence of overweight
    - ❖ Increased risk and degree of obesity over time
      - stronger among those at higher BMI
- Changes in intake of sweet beverages
  - Are associated with changes in risk of overweight

# Fruit Juice Recommendations\*

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- Juice should not be:
  - introduced before 6 months\*
  - given from bottles or *sippy cups*\*
- Juice should be limited to:
  - 4 - 6 fl oz/day for children, ages 1 to 6 years\*
  - 8 - 12 fl oz/day for children, ages 7 to 18 years\*
  - one 6 fl oz serving/day\*\*
- Whole fruit is more beneficial than fruit juice, therefore fruit is recommended over juice\* \*\*

\* American Academy of Pediatrics. Pediatrics 2001; 107:1210-1213.

\*\* Dietary Guidelines for Americans, 2005

# Approaches to Sweet Beverages

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- Educate Parents and Other Providers
  - ❖ Age to introduce
  - ❖ Method (not via bottle or "sippy cup")
  - ❖ Limit amount
- Change policies regarding sweet beverages
  - Federal policy
    - ❖ WIC and CACFP (USDA)
  - State, City, Local policy
    - ❖ School breakfast, snack, lunch
    - ❖ School vending, ala carte
    - ❖ Child-care, preschool setting
  - Industry Policy - American Beverage Assn..



# NYC Proposal

## Amend Article 47, NYC Health Code Applies to Group Day Care in NYC

---

- Fruit Juice
  - Restricted to only 100% fruit juice
  - No juice shall be served in bottles
  - For children under 8 months
    - ❖ Shall not be served
  - For children over 8 months
    - ❖ Shall be limited to no more than 6 oz per day

# In summary

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- We will not beat the obesity epidemic unless we get “control” of our environment, our children’s environment
  - At home, school, after-school, child-care settings and in our communities
- Actions are needed at all levels and in multiple ecological spheres
- We must think globally, but begin with local solutions — and evaluate them —
  - ***One school, one community, one city at a time... until we reach the tipping point***