New York State’s Approach to Fighting Childhood Obesity

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CLOCC
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The Problem

- 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.

New York City Upstate

NY
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

- 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?

- 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

- 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

- *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
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

http://www.health.state.ny.us/prevention/obesity/activ8kids/
The Overweight/Obesity Epidemic: Calls for a Paradigm Shift

- Individual Responsibility
- Environmental Change
- Treatment
- Prevention
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.

Public Health Strategies: A Guide to Priorities

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Increase Early Recognition

• 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

- 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

- 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
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

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

- 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
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Build Infrastructure and Public Health Response

- 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

- 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)
• 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
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

- 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

- 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

• 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
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
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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
Beating Obesity Epidemic

- 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

- 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
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Evaluation of Schools’ Initiatives

- 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

#### Rat Studies

- 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.

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Sweet Beverages and Obesity

- 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.**

Sweet Beverages and Obesity

- Consumption of sweet drinks
  - soda (not diet) -- sweetened ice tea
  - Hawaiian Punch, lemonade, Kool-aid, fruit drink

associated 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).**

# Nutritional Content of Fruit Juice

(Per 8 Fluid Ounce Serving)

<table>
<thead>
<tr>
<th></th>
<th>Apple</th>
<th>Orange</th>
<th>Grape</th>
<th>Pear</th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy (k cal)</td>
<td>117</td>
<td>112</td>
<td>154</td>
<td>196</td>
</tr>
<tr>
<td>Fructose (g)</td>
<td>13.9</td>
<td>11.5</td>
<td>21.0</td>
<td>21.3</td>
</tr>
<tr>
<td>Glucose (g)</td>
<td>6.2</td>
<td>13.2</td>
<td>17.2</td>
<td>6.3</td>
</tr>
<tr>
<td>Sucrose (g)</td>
<td>4.2</td>
<td>1.7</td>
<td>0.0</td>
<td>6.0</td>
</tr>
<tr>
<td>Sorbitol (g)</td>
<td>0.6 - 1.2</td>
<td>0.0</td>
<td>0.0</td>
<td>4.5 - 5.5</td>
</tr>
</tbody>
</table>

# Nutritional Content of Sweeteners

(Percent of Total)

<table>
<thead>
<tr>
<th></th>
<th>Sucrose</th>
<th>Corn Syrup</th>
<th>HF Corn Syrup</th>
<th>Conc. Apple</th>
<th>Conc. Grape</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fructose</td>
<td>0</td>
<td>42</td>
<td>55</td>
<td>48</td>
<td>55</td>
</tr>
<tr>
<td>Glucose</td>
<td>0</td>
<td>50-52</td>
<td>40</td>
<td>21</td>
<td>45</td>
</tr>
<tr>
<td>Sucrose</td>
<td>100</td>
<td>0</td>
<td>0</td>
<td>14</td>
<td>0</td>
</tr>
<tr>
<td>Other</td>
<td>0</td>
<td>10-12</td>
<td>5</td>
<td>17</td>
<td>0</td>
</tr>
</tbody>
</table>
U.S. per capita food consumption
Sugar and sweeteners (individual)

Dry weight, pounds per capita per year

- Total selected commodities
- Cane and beet sugar
- Edible syrups
- Honey
- HFCS
- Glucose
- Dextrose

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

Increased Fruit Juice Intake

Fruit Juice Intake

- 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

Fruit Juice Intakes and Overweight
N=105, 2 years, 1 recall and 2 days of diet records

p=0.51  p=0.08  p=0.18

Sweet Drinks & Increased Obesity

- Children, BMI<85th percentile
  - Positive association between sweet drink consumption (Soda, Fruit drink, Fruit juice) and 1-year development of obesity, but not significant

- Children, BMI > 85th percentile
  - Sweet drink consumption was significantly associated with development of obesity
  - Association held for sweet drinks excluding soda

- Children, BMI > 95th percentile
  - Fruit juice alone significantly associated with 1-year risk of developing obesity

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

Effect of daily servings of juice on change in BMI Z-score for children at-risk/overweight at baseline

Faith, Dennison, Edmunds, Stratton. Pediatrics (Revision)
Sweet Beverages & Obesity: Summary

• **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

• 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* **

** Dietary Guidelines for Americans, 2005
Approaches to Sweet Beverages

- 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

- 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