

# Child and Adolescent Obesity in Massachusetts: Opportunities for Effective Policy Interventions at the State Level

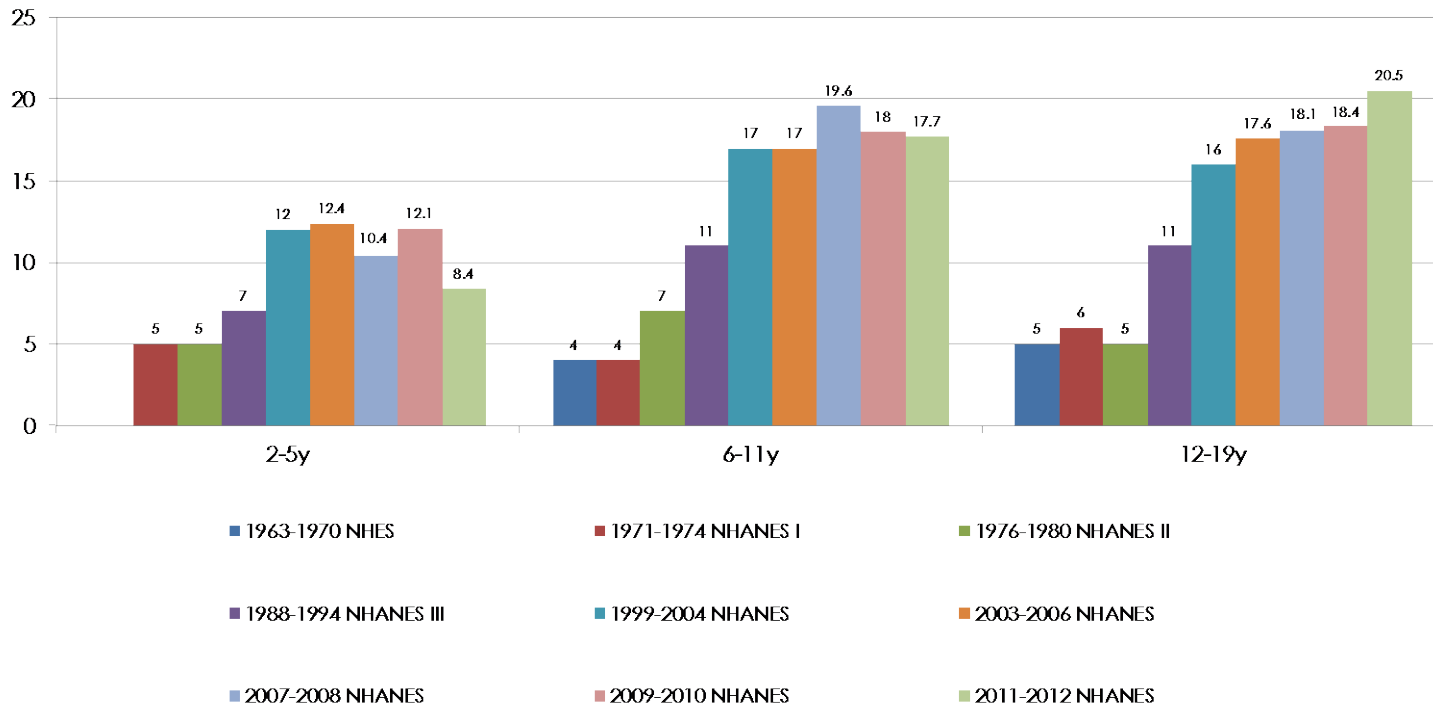
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New Balance Chair in Childhood Nutrition  
Vice-Chair and Director, ChildObesity180

# U.S. Childhood Obesity National Trends

*Reduction in Increase*

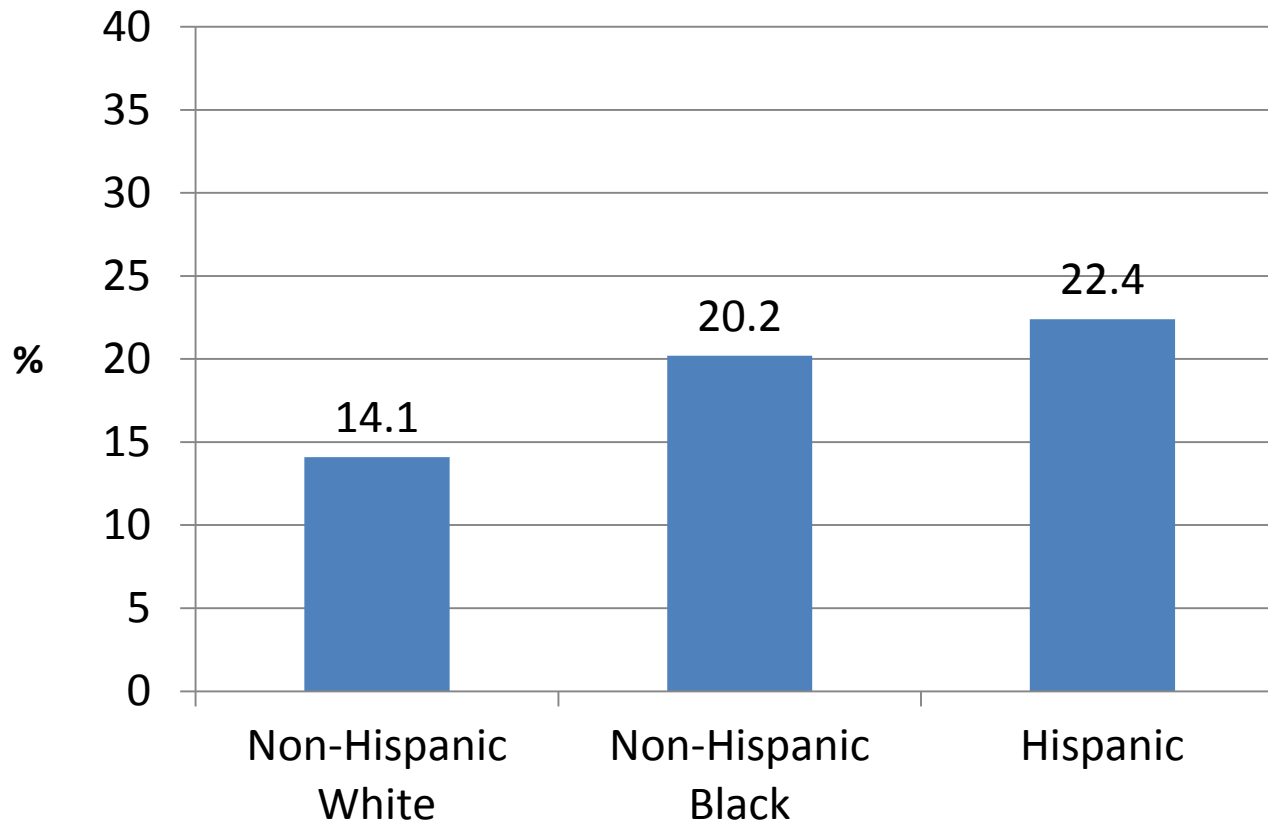
*↑ Quadrupled*

*↑ Quadrupled*



# Child Obesity Rates are Disproportionately Associated with Race/Ethnicity

Percentage of Children by Ethnic Group that are Obese –Results from the 2011-2012 NHANES Survey (Ages 2-19)



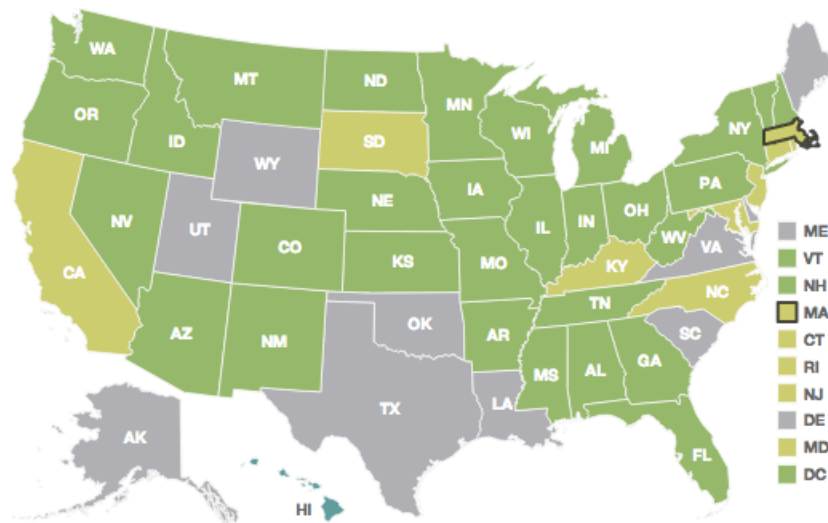
# Child Obesity Rates in Low-Income Massachusetts Preschoolers

## Obese Low-Income 2- to 4-Year-Olds, 2011

Select years with the slider to see historical data. Hover over states for more information. Click a state to lock the selection. Click again to unlock.

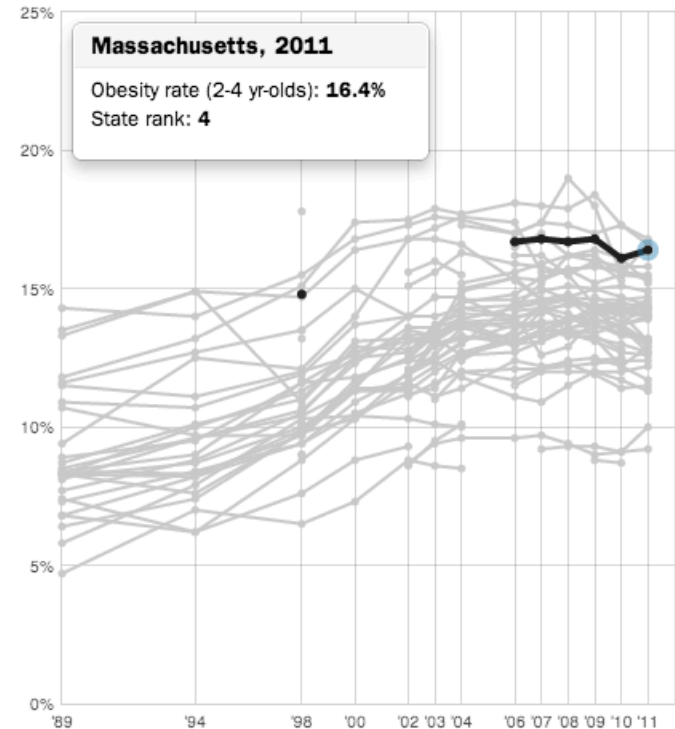
### Percent of obese 2- to 4-year-olds from low-income families

0 - 9.9%    10.0 - 14.9%    15.0 - 19.9%    20.0 - 24.9%



## Obesity Among 2- to 4-Year-Olds, 1989-2011

Low-Income Families



Source: <http://fasinfat.org/pednss2011/> and Pediatric Nutrition Surveillance Survey

# Child Obesity In Massachusetts

## 2- to 4-year-olds from low-income families

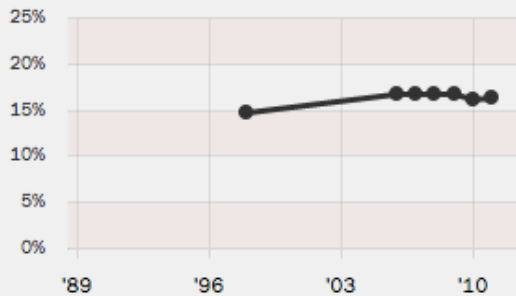
Current obesity rate (2011)

**16.4%**

Rank among states (2011)

**4**<sub>/41</sub>

Historical rates (1989-2011)



Source: [fasinfat.org/pednss2011](http://fasinfat.org/pednss2011)

## 10- to 17-year-olds

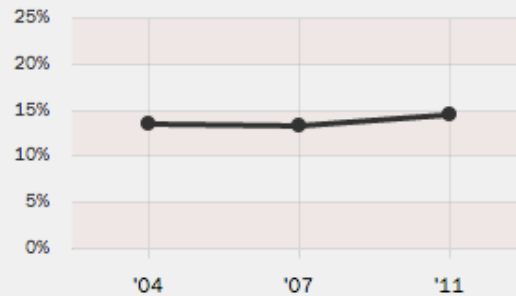
Current obesity rate (2011)

**14.5%**

Rank among states (2011)

**25**<sub>/51</sub>

Historical rates (2004-2011)



Source: [fasinfat.org/nsch2011](http://fasinfat.org/nsch2011)

## High school students

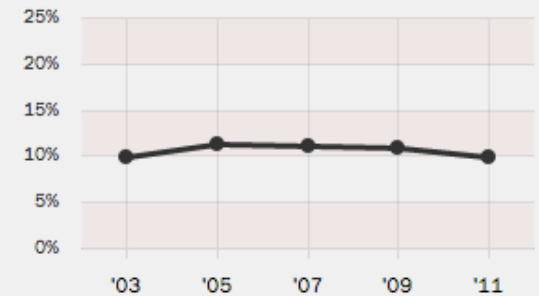
Current obesity rate (2011)

**9.9%**

Rank among states (2011)

**37**<sub>/43</sub>

Historical rates (2003-2011)



Source: [fasinfat.org/yrbs2011](http://fasinfat.org/yrbs2011)

# What Influences Trends in Obesity and Where Can Policy Intervene?

- Individual Level Factors
  - Unhealthy Dietary Behaviors
  - Low Levels Physical Activity
  - High Physical Inactivity Levels
- Environmental Factors
  - Physical Activity Environment
  - Food Environment
- Broader Societal Factors
  - Weight Stigma
  - Food Advertising



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# Child Obesity Prevention

- School-based interventions
  - Increase PA during the School Day
  - Improve the Quality of School Food
  - Support Parents and Educators
- Most effective interventions are multi-component

# Shape Up Somerville: Eat Smart. Play Hard.



Shape Up Somerville:  
Eat Smart. Play Hard.

- A community-based, participatory, environmental approach to prevent childhood obesity (2002-2005)
- A 3 year controlled trial to study 1st – 3rd grade culturally and ethnically diverse children and their parents from 3 cities outside Boston
- Goals:
  - To examine the effectiveness of the model on the prevention of undesirable weight gain in children
  - Transform a community and inform social change at the national level



Environment



During School Environment



Afternoon Environment



Home  
Parent, C

School Program  
School:  
Administration, staff  
Coordinator

P  
H

10 Units  
(- 25 kcals) 5 days/wk (10 min)  
Physical Activity Education 1 day/wk

Chi

aff  
Chi

aff

Reinfor  
Enviro



# Community-Based Restaurant Initiative: SUS



(restaurants exempted)

l, menu, laminated sign, or table tent  
window



•Key components:

- Flexibility!
- Publicity (coupons in newsletter, “W
- Healthy Meal Planning Guide

# SUS Results

Significant BMI z-score declines in intervention group over two year study period.



Decrease in ounces of sugary drinks/day



Increase in number of sports/year



Decrease in screen time (hours/day)

# Shape Up Somerville: Ingredients for Sustained Success

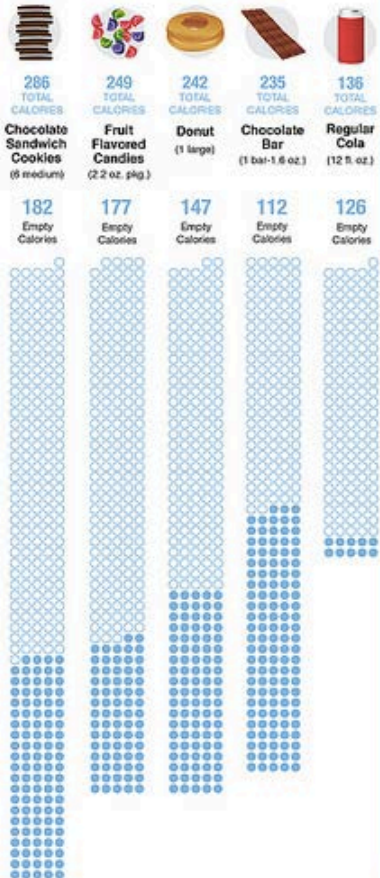
- Leadership changes leveraged (University President & Mayor)
- Local BMI data catalyzed community support
- Key informant interviews & focus groups built relationships & buy-in
- Community champions = early adopters setting example
- Professional development
- Additional funding
- Ownership (MOAs, branding)
- Dedicated staffing within city government
- SUS taskforce as umbrella initiative
- Multiple systems within community involved
- Policy changes for sustainability

# SMART SNACKS IN SCHOOL

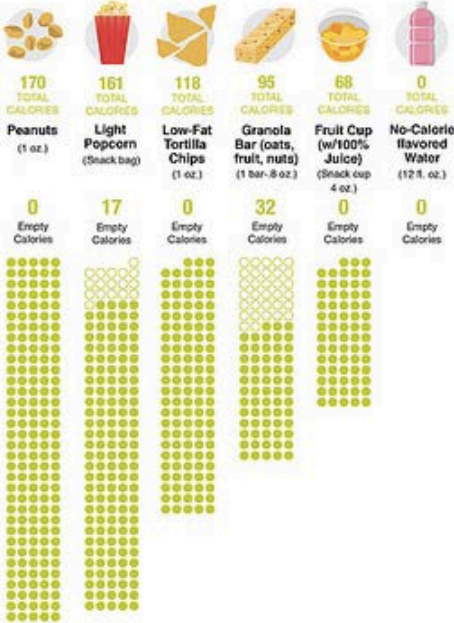
The Healthy, Hunger-Free Kids Act of 2010 requires USDA to establish nutrition standards for all foods sold in schools — beyond the federally-supported meals programs. This new rule carefully balances science-based nutrition guidelines with practical and flexible solutions to promote healthier eating on campus. The rule draws on recommendations from the Institute of Medicine, existing voluntary standards already implemented by thousands of schools around the country, and healthy food and beverage offerings already available in the marketplace.

● Equals 1 calorie   
 ○ Shows empty calories\*

## Before the New Standards



## After the New Standards



\*Calories from food components such as added sugars and solid fats that provide little nutritional value. Empty calories are part of total calories.

# Obesity Prevention in Massachusetts



# Mass in Motion

# KIDS



# Active Schools Acceleration Project: Approach

## Phases

- Identify
- Replicate
- Scale
- Sustain



# Active Schools Acceleration Project



61% of ASAP Schools have > 50% of children eligible for free & reduced price lunch

Children eligible for free & reduced price school lunch

- Over 50%
- Under 50%
- Not reported

# Active Schools Acceleration Project

## What's Working?

Competitions

Igniting  
Champions

Running Clubs  
Classroom PA

Financial  
Incentives



# Evaluation of Policies and Programs

- Imperfect measures of food and activity environments
- Need for further validation and research of evaluation tools
- Also, need for cost effectiveness analyses

# Conclusions

- Focus prevention efforts on groups at risk
- Start prevention efforts as early as possible
- Support intervention programs promoting robust, long-term community engagement and civic participation
- Develop community-wide policies to promote and sustain change
- Create and enforce policies for physical activity in school
- Standardize indicators evaluating obesity prevention efforts
- Strengthen indicators for changes in community policies and the environment



# child obesity180

reverse the trend.



**Tufts** | Friedman School of  
UNIVERSITY | Nutrition Science and Policy



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