Childhood Overweight and Obesity in Massachusetts: *Trends, Problems & Solutions*

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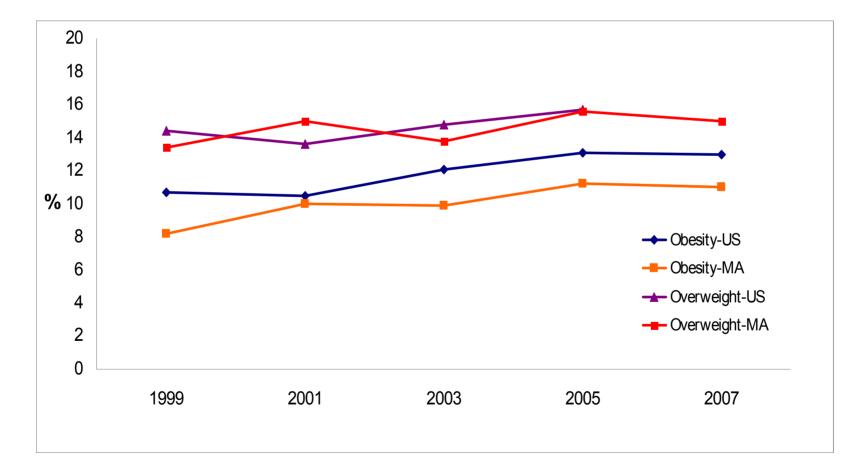
Tufts University Friedman School of Nutrition Science & Policy John Hancock Center on Physical Activity and Nutrition

What I Am Going to Talk About....

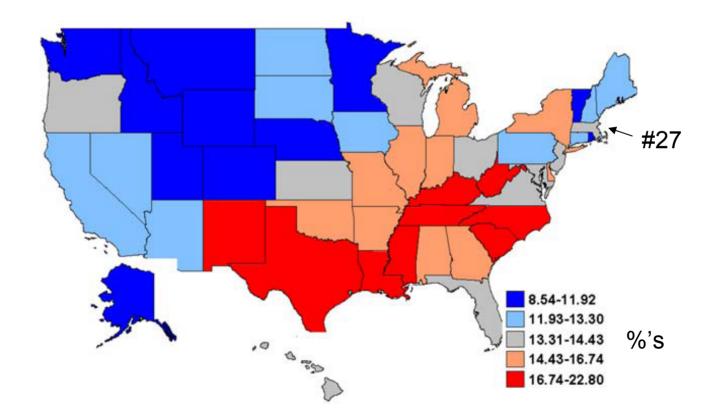
- We can use "science" to guide "policy"
 Science spans biological → sociological
- Often there are no "quick" answers with science & sometimes the science is not "exact"
- Will not make "recommendations" but just some "key suggestions"

Childhood Obesity Prevalence & Trends

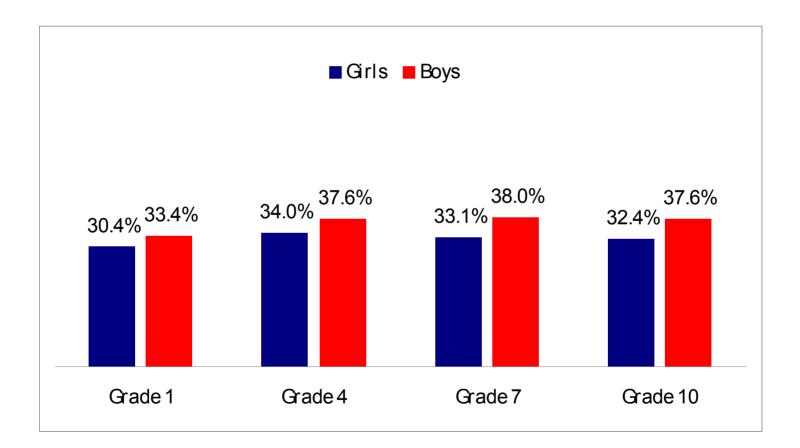
1999-2007 Trends for Adolescent Overweight and Obesity in Massachusetts and the U.S



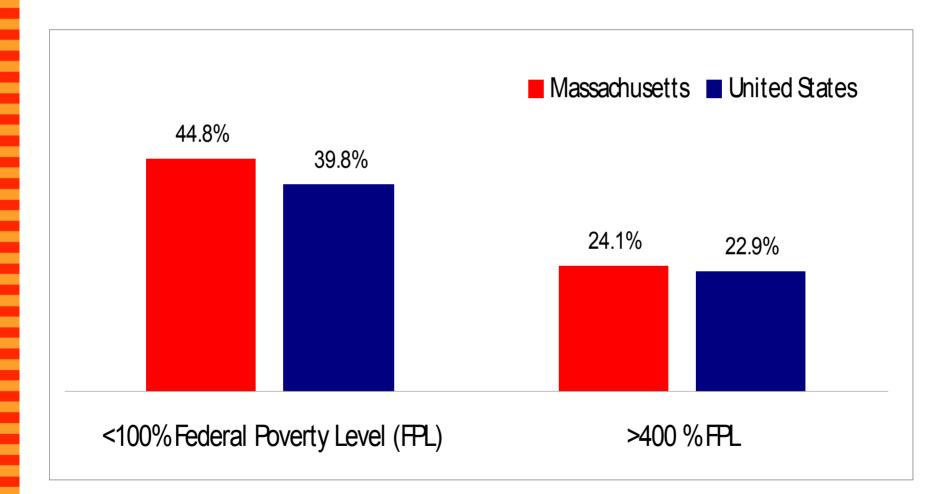
Obesity Prevalence by State in US Children Aged 10-17 yrs



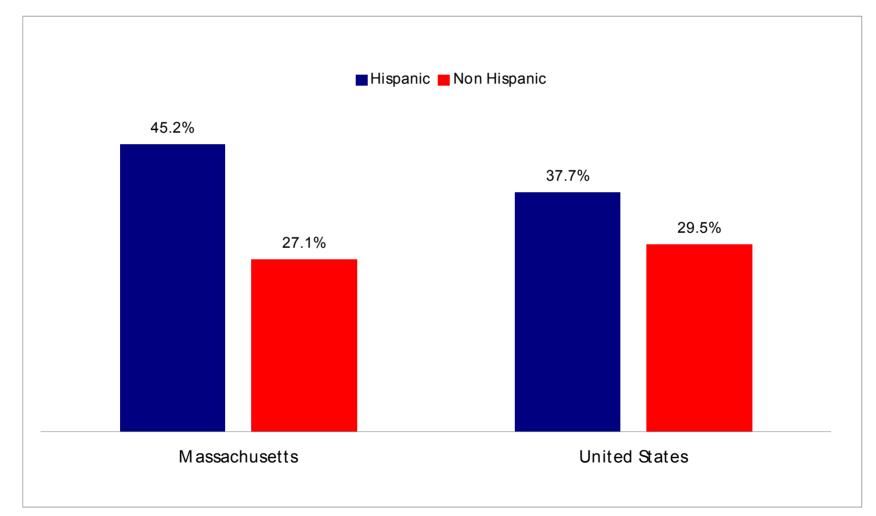
Prevalence of Overweight by Grade & Gender in MA



% Overweight or Obese Children by Family Income

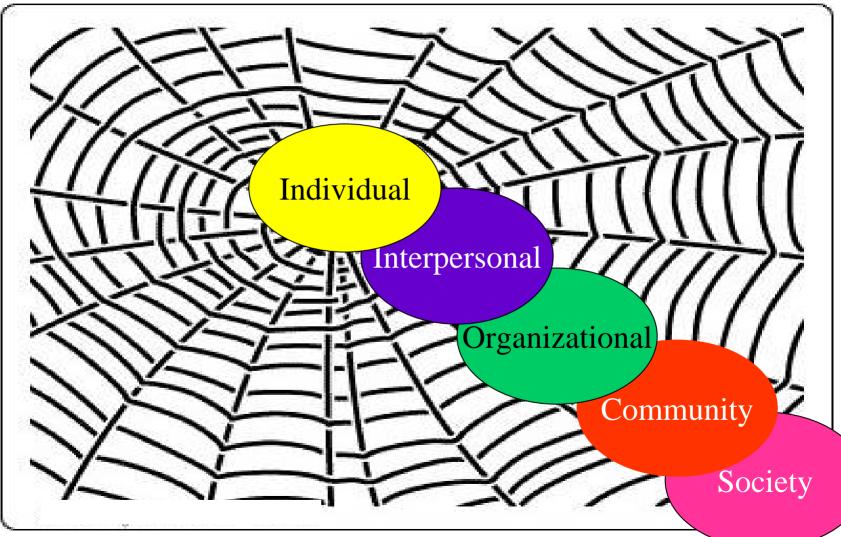


% of Overweight or Obese Hispanic Children



Causes of Childhood Obesity

Social Ecological Model of Obesity



Rise in obesity....the inability to control our *individual* energy intake/expenditure vs. the *environmental* stimuli that influences intake/expenditure



Energy "Gap"

- It has been calculated that the energy gap needed to produce weight gain is between 110 - 165 calories per day
 - -~1 can of soda
 - 1 oz bag of chips
 - 1 ice cream bar

Wang et al, Pediatrics, 2006 Plachta-Danielzik et al, Obesity, 2008

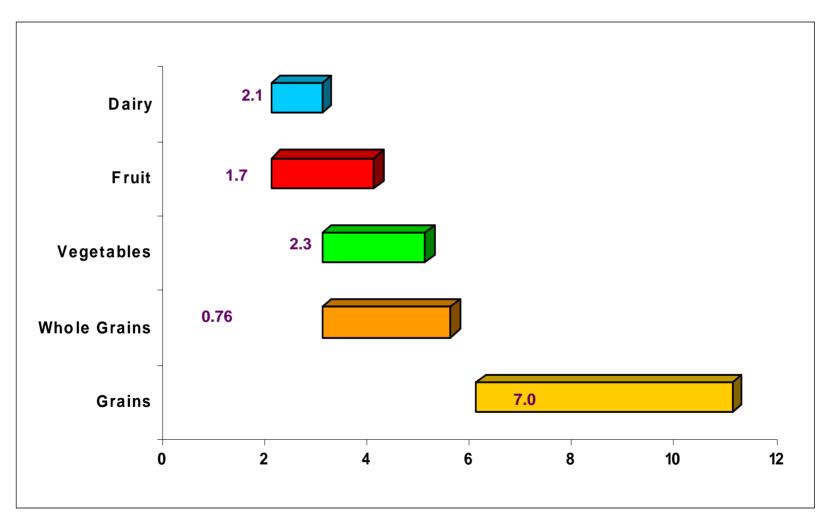
Closing the Energy "Gap"

- \downarrow TV viewing by 1.4 hours (106 kcal/hr)
- Walk 1.9 hrs vs. sitting (30 kg boy)
- ↑ PE from 1x → 3x per week (+240 kcal/wk)

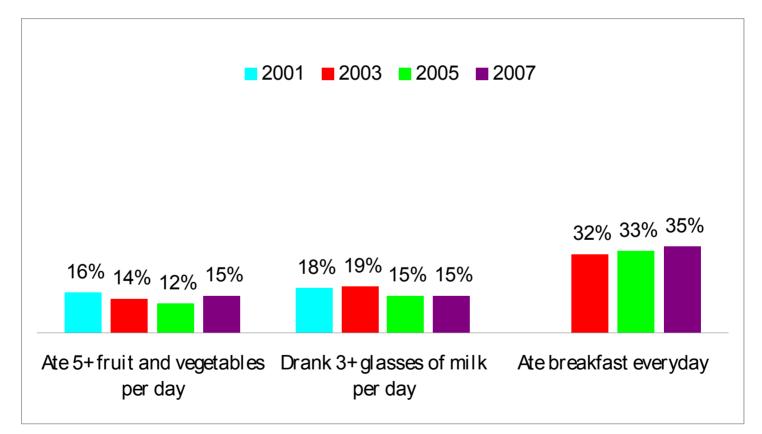
Removed sodas from Boston high schools $-\downarrow$ consumption =34 kcal/day

Poor Nutrition

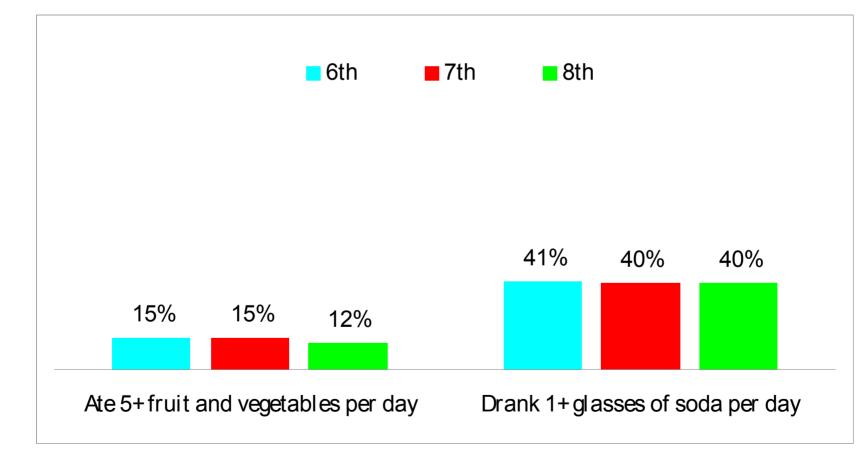
Recommended Daily Servings vs. Reality (2-19 yrs)



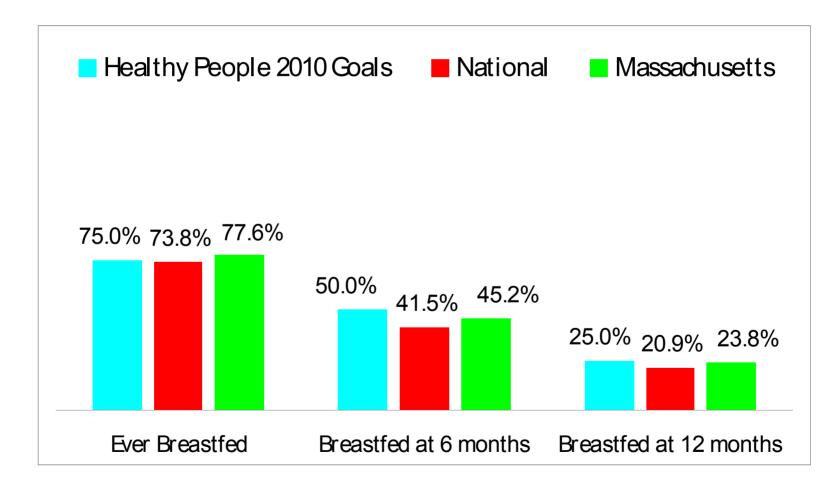
Food Consumption of Massachusetts High School Students



Food Consumption of Massachusetts Middle School Students



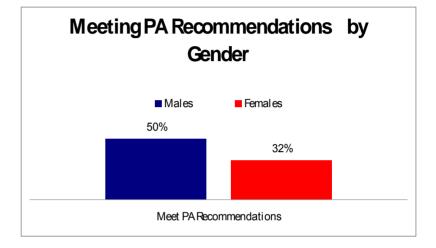
Comparison of Breastfeeding Rates



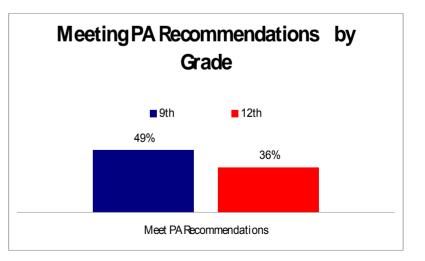
Lack of Physical Activity

Physical Activity

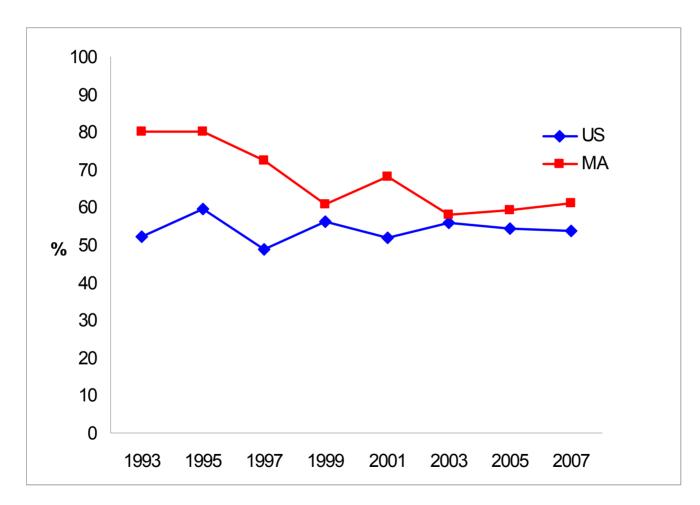
41% of students are physically active (60 min/day)



 9th grade students were more likely than 12th grade students to meet recommendations (60 min/day)



Adolescents Who Attend PE Class in an Average Week



Youth Risk Behavior Survey, 1993-2007

TV & Screen Time

High School

- 30% reported 3+ hrs/day of non-school related computer usage
- 28% reported 3+ hrs/day of TV viewing

Middle School

 – 18% reported 3+ hrs/day of Internet use on an average school day

Costs & Consequences

Consequences

Biological and Social Health

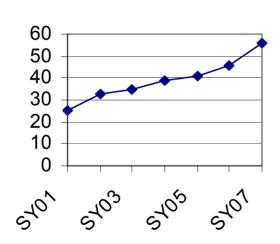
- Overweight and obese children are more likely to become obese adults
- Sleeping problems, social stigmas, teasing

Productivity

 Greater levels of school absenteeism → decreased academic performance?

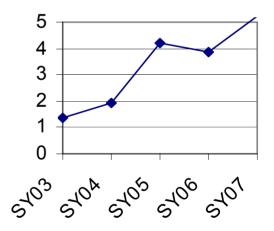
MA Childhood Diabetes Prevalence

Procedures Per 1,000 Students Per Month



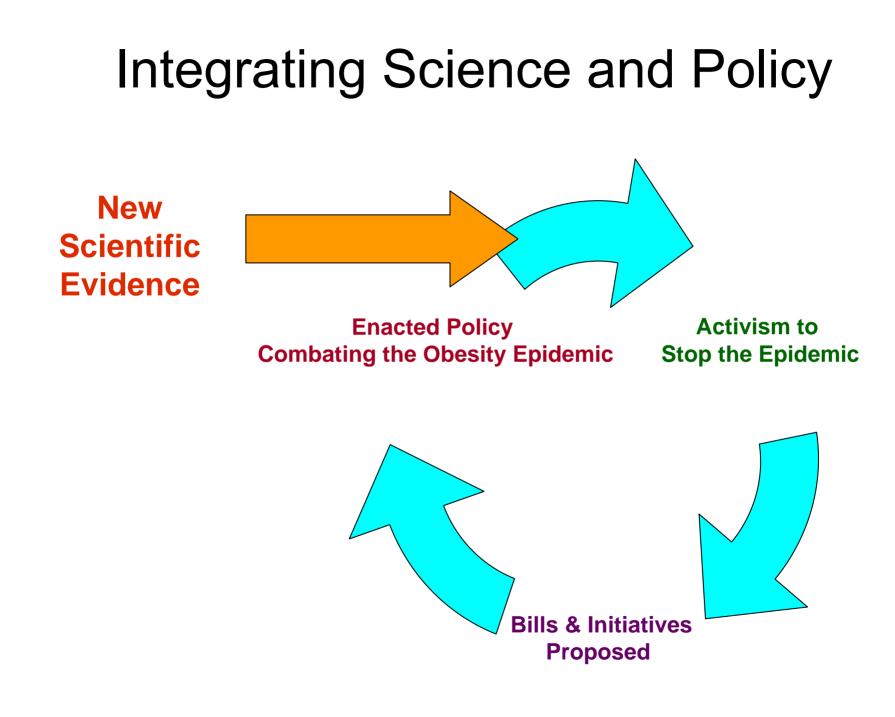
Blood Glucose Testing

Insulin Pump Care

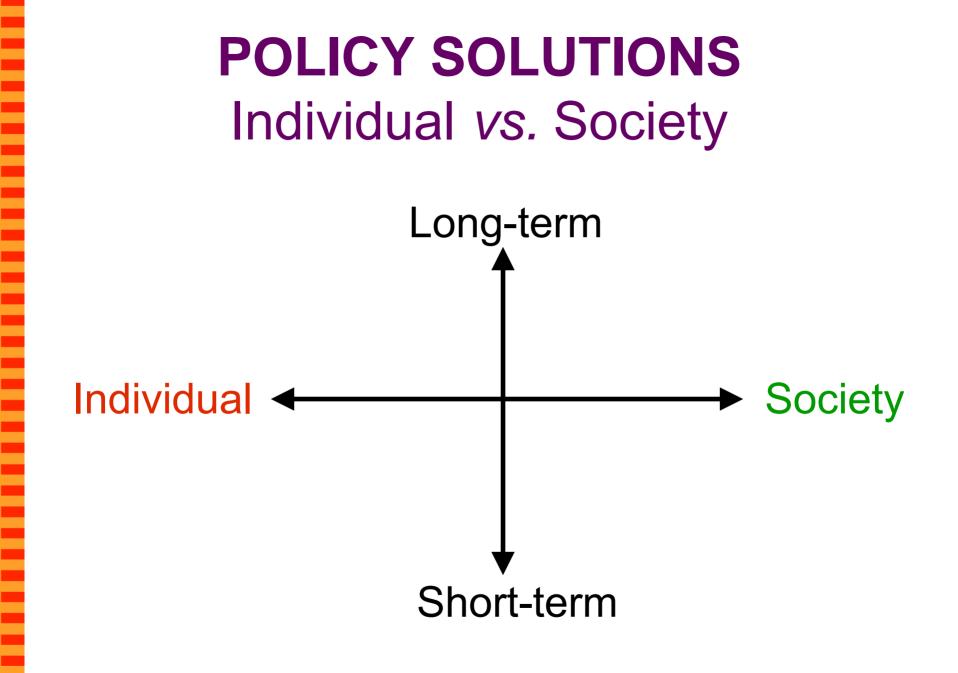


Costs

- State medical expenses associated with obesity:
 Massachusetts 4.7% (\$283 per capita)
- Decrease of just 5% prevalence of overweight and obesity and an increase in physical activity would save Massachusetts \$9.6 billion over four years
- Per child medical expenditures for overweight & obese children are ~\$200 more than for healthy weight children



Policy: Individual vs. Society Values Individual Society



Massachusetts Policy & Program Landscape

MA Department of Public Health Initiatives

- Statewide Taskforce on Obesity (2008): Formed to both complement and coordinate several groups around the state to fight obesity
- Workplace Wellness Initiative (2008): Conceptual framework for worksite wellness initiatives
- Wellness Grants (2007): Awarded \$1 million in grants across the state to support healthy eating and increased physical activity

Other MA Initiatives

- Jump Up & Go!
- Growing Up Healthy
- MA Action For Healthy Kids
- Project Bread: Better Breakfast & Better Summer Meals
- Farm to School Project

Massachusetts Legislative Environment

School Wellness Policies

Only 30% of MA school wellness policies meet minimum federal requirements

 Only 70% of the policies included plans for evaluation and communication of those findings to school administration

2007 Obesity-Related Standards in Schools & State Initiatives

| Type of Legislation | Massachusetts |
|---|---------------|
| Nutritional Standards for School Meals | X |
| Nutritional Standards for Competitive Foods | |
| Limited Access to Competitive Foods | |
| Physical Education Requirements | X |
| BMI or Health Information Collected | X |
| Non-invasive screening for diabetes | |
| Health Education Requirements | X |
| Trans Fat Restrictions | x |
| Snack Taxes | |

Trust for America's Health, 2007

Most Promising *Nutrition* Policy Options

- ↑ Participation of schools in school breakfast programs
- 2. Changes in nutritional standards at schools
 - limit access to junk foods in cafeterias and vending machines
- 3. Regulation of marketing of foods to children
- 4. Zoning changes in the built environment around access to healthy and affordable food
- ↑ Promotion and public acceptance of breastfeeding

Most Promising *Physical Activity* Policy Options

- 1. Increased physical education and recess time in schools
- 2. Administration of annual fitness testing in schools
- 3. Increase walkability and cyclability of built environment
 - design attractive sidewalk networks
 - create schoolyards, playgrounds, and trails that are safe and accessible
 - convert areas to be bike-friendly within communities to promote active living

Most Promising Universal Approaches

- Recognize that we have a problem
- Collect Data
- Life course approach
- Teaching of health professionals about "prevention"
- Increase business and organization care for health of employees
- Parents serve as "role models" for healthy lifestyle behaviors
 - \uparrow healthy foods in the home
 - \downarrow screen time
 - Promote safe, outdoor play

Need For A Coordinated Strategy



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Thank You



