

Epidemiology of Childhood Obesity



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American
Heart
Association

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Epidemiology

The study of how a disease or health outcome is distributed in populations and what factors influence or determine this distribution.

Definition of Childhood Obesity

- For children and teens, BMI ranges above a normal weight have different labels (“at risk of overweight” and “overweight”). Additionally, BMI ranges for children and teens are defined so that they take into account normal differences in body fat between boys and girls and differences in body fat at various ages.
- At risk for overweight and overweight for children and adolescents are defined as being at or above the 85th and 95th percentile of Body Mass Index (BMI)

Weight status category	Percentile range
Underweight	Less than the 5 th percentile
Healthy weight	5 th percentile to less than the 85 th percentile
At risk of overweight	85 th to less than the 95 th percentile
Overweight	Equal to or greater than the 95 th percentile

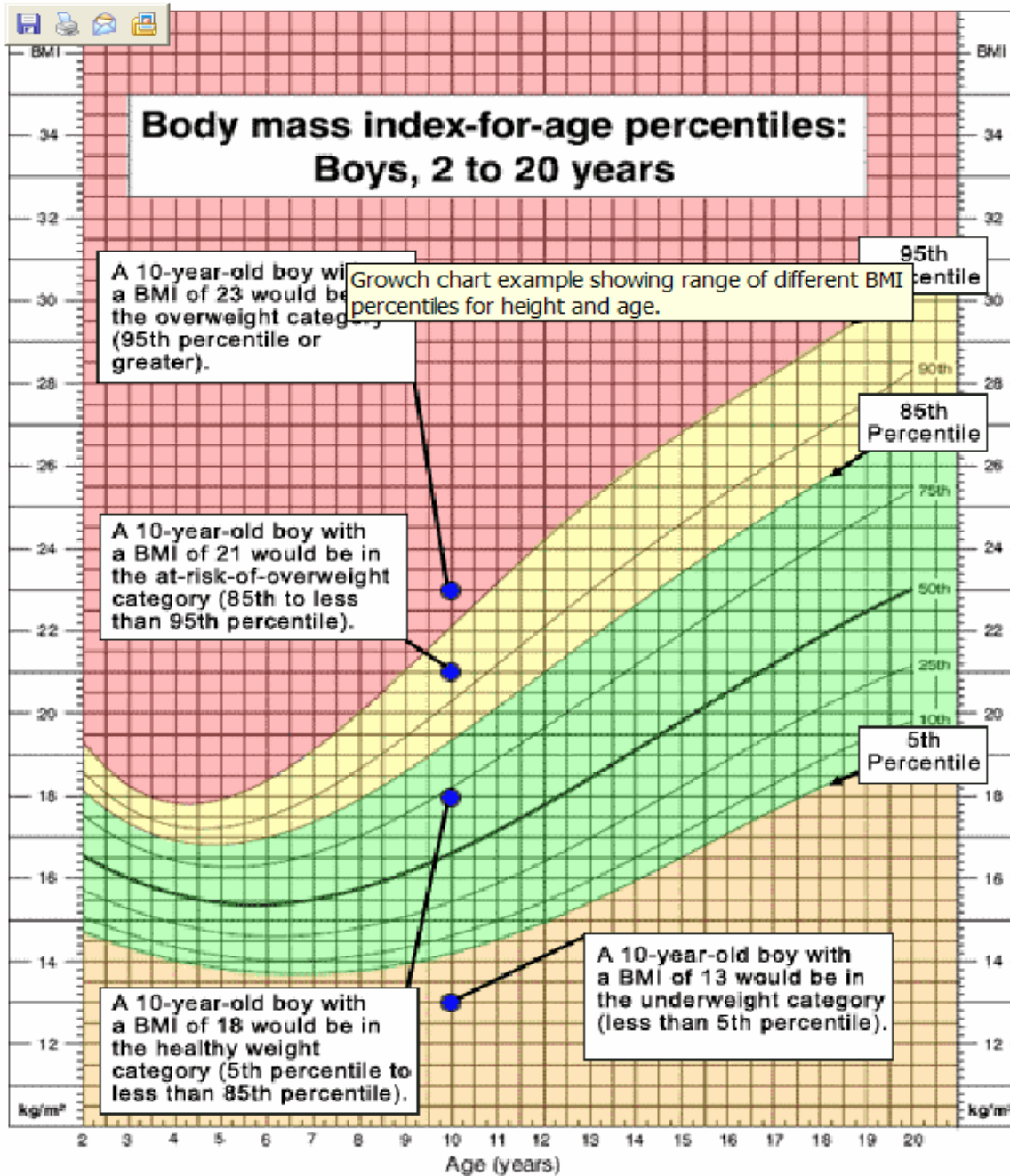


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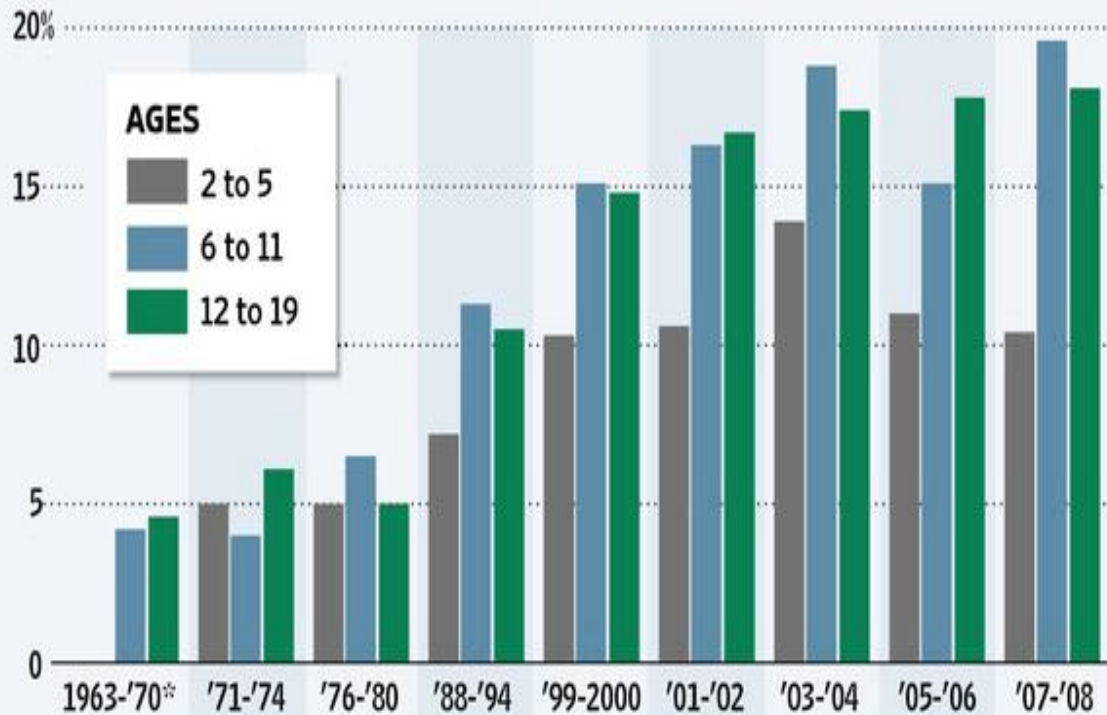


The 95th Percentile:

- Corresponds to a BMI of 30, which is the marker for obesity in adults. The 85th percentile corresponds to the overweight reference point for adults, which is a BMI of 25.
- Is recommended as a marker for children and adolescents to have an in-depth medical assessment.
- Identifies children that are very likely to have obesity persist into adulthood.
- Is associated with elevated blood pressure and lipids in older adolescents, and increases their risk of diseases.
- Is a criteria for more aggressive treatment.

Growing Problem | Obesity is considered the principal precursor to type 2 diabetes in adolescents

Prevalence of obesity among children and adolescents in the U.S. for selected years



*Children aged 2 to 5 not included in survey

Note: Obesity defined as body mass index greater than or equal to sex- and age-specific 95th percentile from the 2000 CDC Growth Charts

Sources: U.S. Centers for Disease Control and Prevention; National Institute for Diabetes and Digestive and Kidney Diseases

Percentage of new cases of diabetes among people ages 10 to 19 that are type 2, 2002-2005

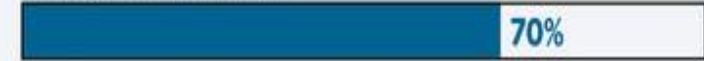
Overall



American Indian



Asian/Pacific Islander



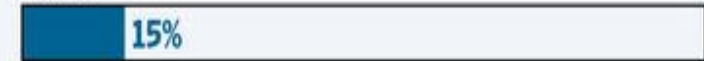
Black



Hispanic



White



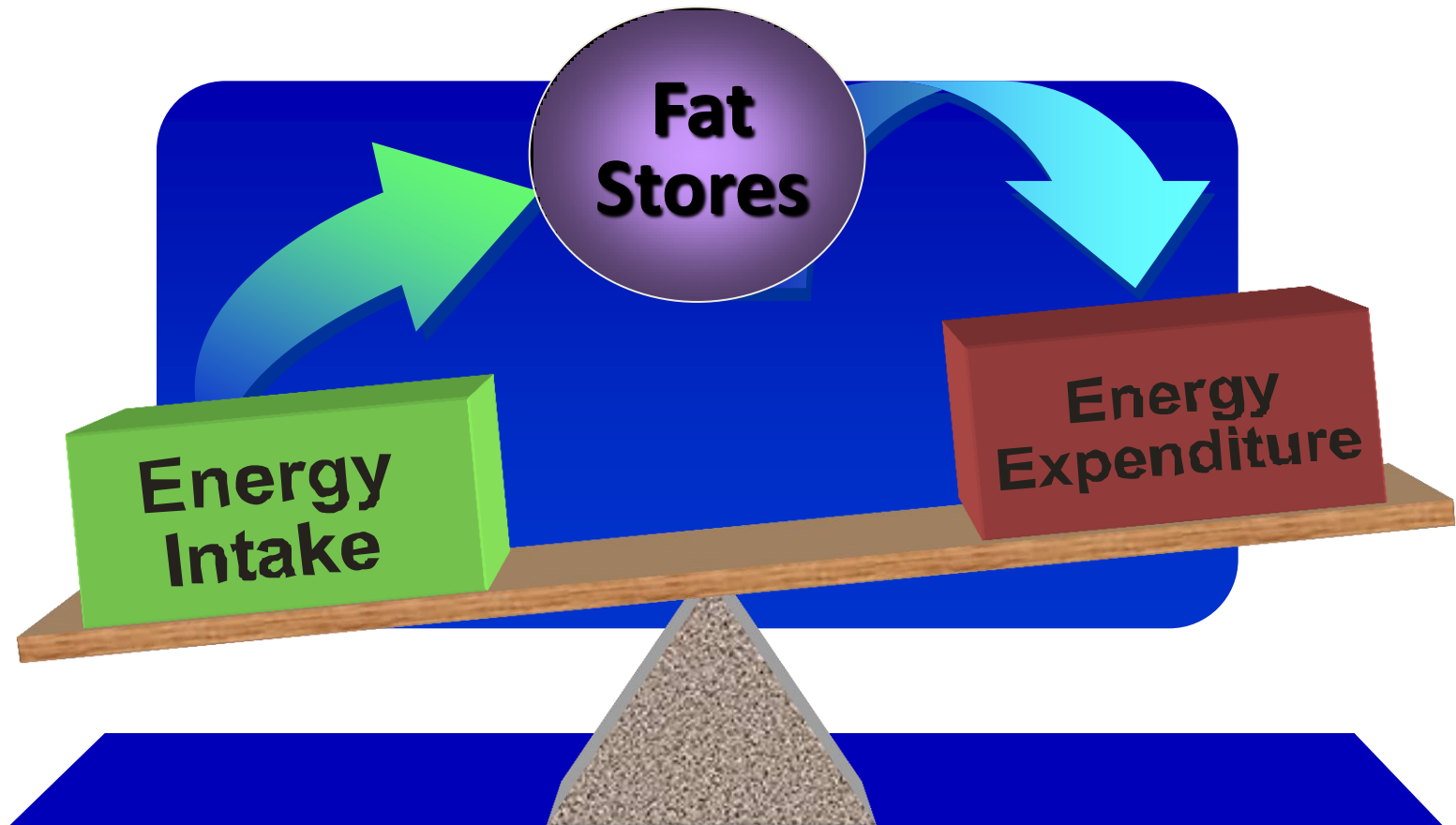
Complications Specific to Children ...

- Persistence of Obesity at Adulthood:
 - Overweight adolescents have a 70% chance of becoming overweight adults.
 - Increases to 80% if one or both parents are obese.
- Obese 6 year old has a 25% chance of becoming obese adult
- Obese 12 year old has a 75% chance of becoming a obese adult.

Cause of Present Obesity Epidemic

- Energy intake *unequal* energy output
- Decreasing physical activity
- Increasing consumption of calorie dense foods
 - **More meals eaten outside of home**
 - **Increased portion sizes**
- Lack of concern about obesity

Obesity Is Caused by Long-Term Positive Energy Balance





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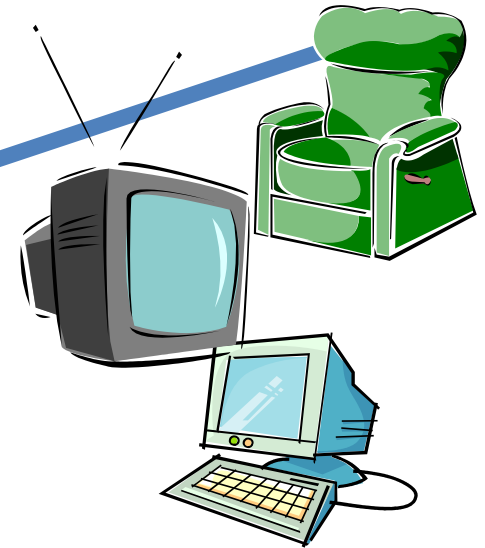
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OBESITY

Energy Out

Energy In





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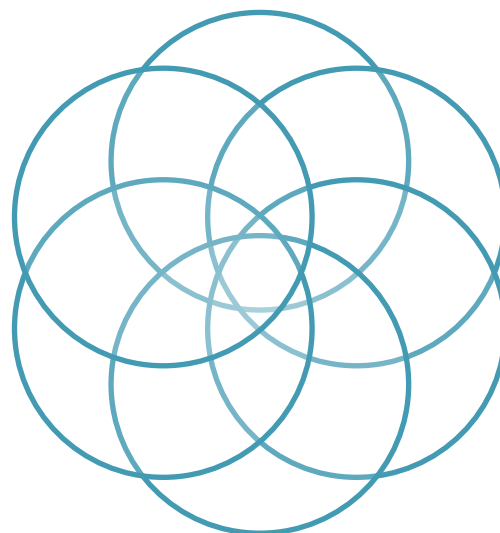
Food Access

Healthy Drinks

Marketing Matters

Active Kids Out of School

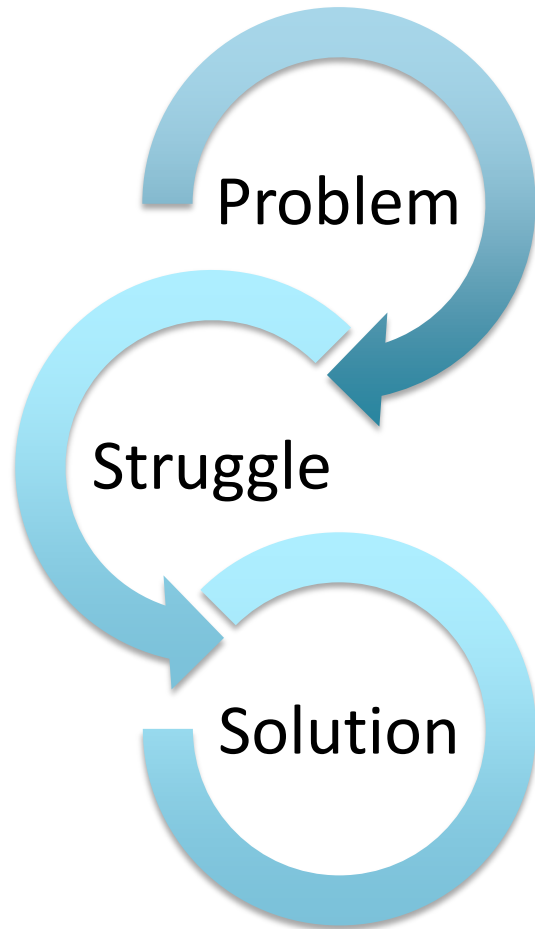
Active Places



Smart School Foods



Childhood Obesity

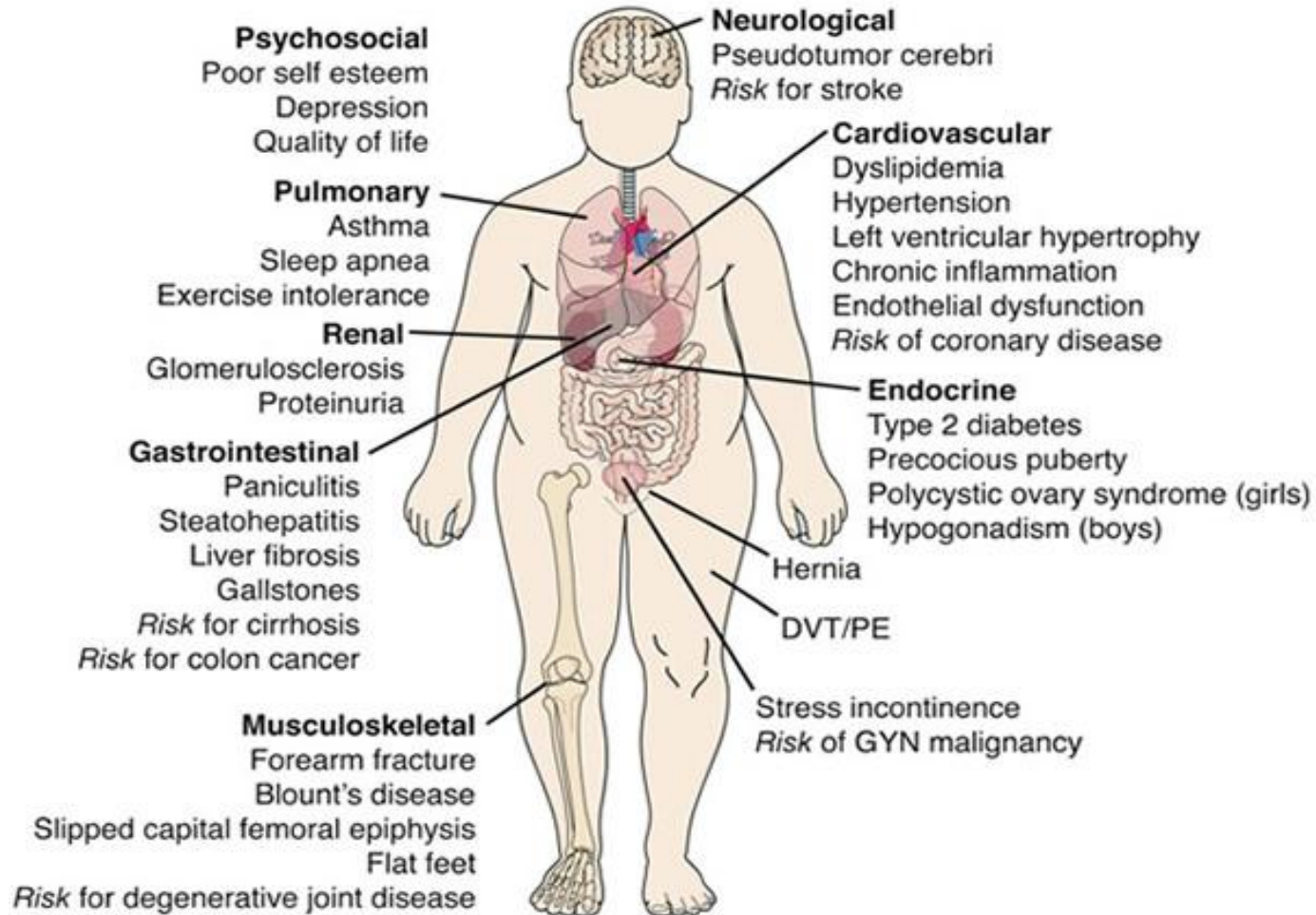


1. Nearly 1 in 3 children are at an unhealthy weight (overweight or obese).

Ogden et al, 2012, JAMA, 307(5), 483-490

2. Youth Obesity Rates (9th-12th graders)
 - 17.7% American Indian/ Alaskan Native
 - 14.7% Hispanics
 - 10.6% blacks
 - 10.3% whites
 - 9.3% Asian/ Pacific Islanders
3. There is growing evidence that kids eat healthier and move more when there are policies that increase access to healthy foods and safe places to play

Complications of Childhood Obesity



Obesity Related Diseases:

- 80% of type II diabetes related to obesity
- 70% of Cardiovascular disease related to obesity
- 42% breast and colon cancer diagnosed among obese individuals
- 30% of gall bladder surgery related to obesity
- 26% of obese people having high blood pressure

<http://www.winltdusa.com/about/infocenter/healthnews/articles/obesestats.htm>

Obesity Related Disease Costs:

- Type II Diabetes (\$63.14 Billion)
- Osteoporosis (\$17.2 Billion)
- Hypertension (\$3.23 Billion)
- Heart Disease (\$6.99 Billion)
- Post-menopausal breast cancer (\$2.32 Billion)
- Colon Cancer (\$2.78 Billion)
- Endometrial Cancer (\$790 Million)

<http://www.winltdusa.com/about/infocenter/healthnews/articles/obesestats.htm>

Cost of Childhood Obesity

- Claims data
 - Obese child \$2,907
 - Child with type 2 diabetes \$10,789
 - Adult with type 2 diabetes \$8,844
- Absenteeism
 - Absent child or sick child care-related

(Sepulveda, Health Affairs, 29:3)



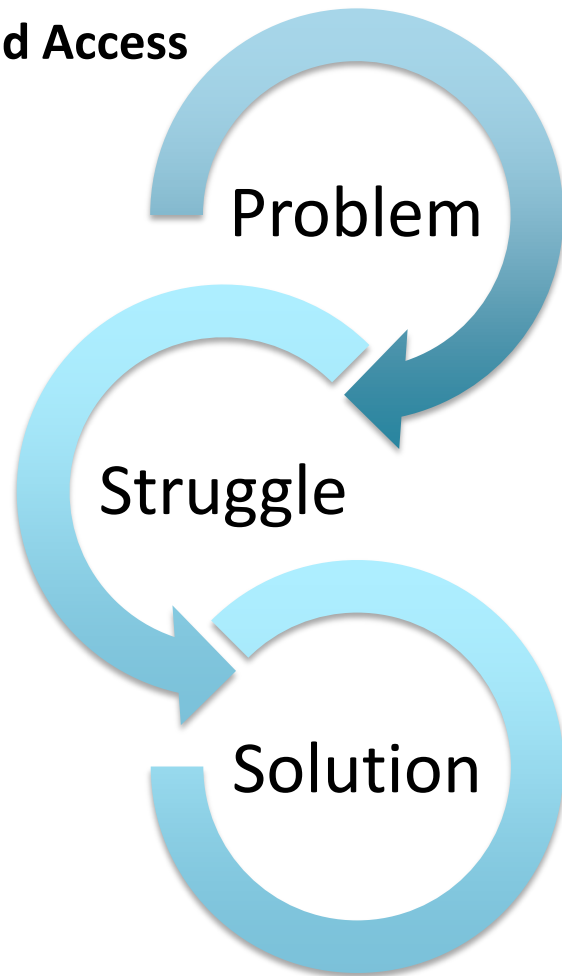
Food Access

- **People can't eat healthy food if they can't get to it or afford it. Having a supermarket in a neighborhood increases residents' fruit and vegetable consumption.**

Marketing Matters

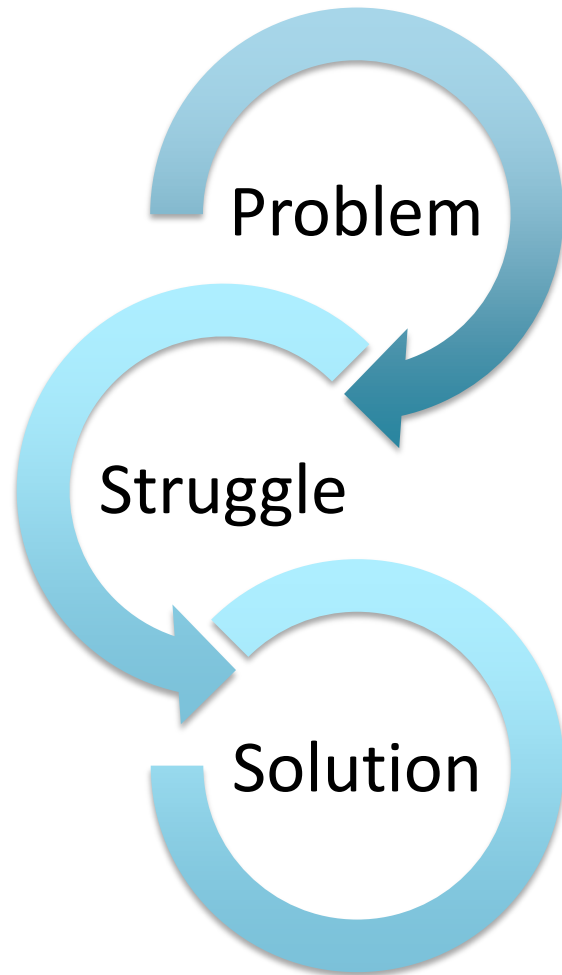
- **Unhealthy products are heavily marketed to kids, and research shows that exposure to food marketing messages increases children's obesity risk.**

Food Access



1. 29.7 million Americans, live in low-income urban and rural neighborhoods that are more than 1 mile from a supermarket.
2. Low-income neighborhoods have 50% fewer supermarkets than the wealthiest neighborhoods.
3. Access to nearby healthy food stores is associated with healthier choices

Marketing Matters



1. Research shows that exposure to food advertisements leads to greater caloric intake in children, especially obese children.
2. Children in lower income families watch more television, increasing their exposure to advertising and reducing their physical activity.
3. One study suggests a ban of television fast food advertising alone would reduce the number of overweight children by 18%.

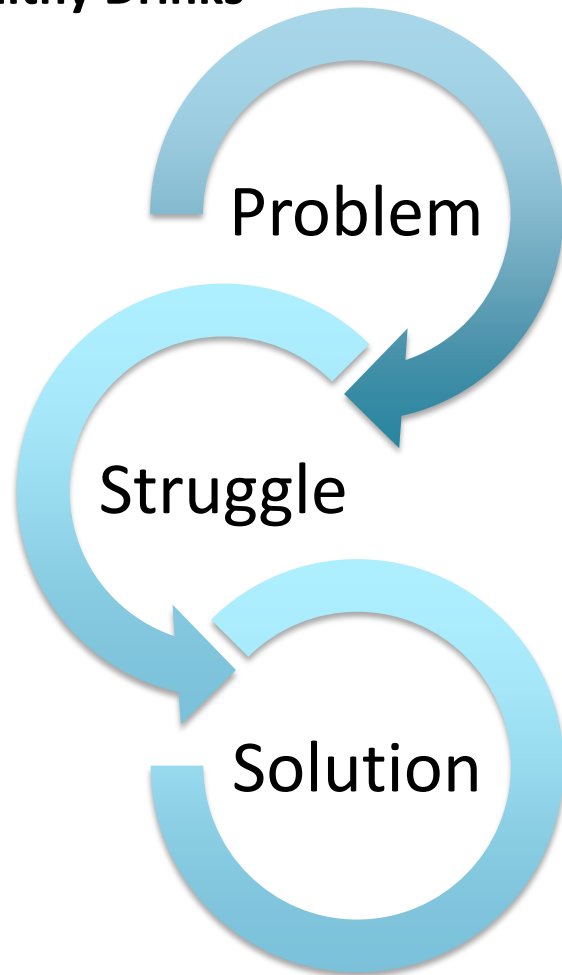
Healthy Drinks

- Making the switch from unhealthy to healthy drinks will cut calories. Communities can increase the availability of healthy drinks, while decreasing the availability of unhealthy drinks.

Smart School Foods

- School meals are now healthier than ever, yet there are other unhealthy foods sold in schools. All foods in school should meet the same nutrition standards.

Healthy Drinks



1. Sugar-sweetened beverages are the # 1 source of added sugars in the American diet. A 12-ounce can of regular soda contains about 130 calories and 8 teaspoons of sugar.
2. Only 17% of teen boys and 42% of young children drink less than 4.5 servings/week. The average number of SSBs each week roughly matches the age of the child.

<u>Ages</u>	<u>Average Servings</u>
5 to 9	8
10 to 14	11-13
15 to 19	14 -18

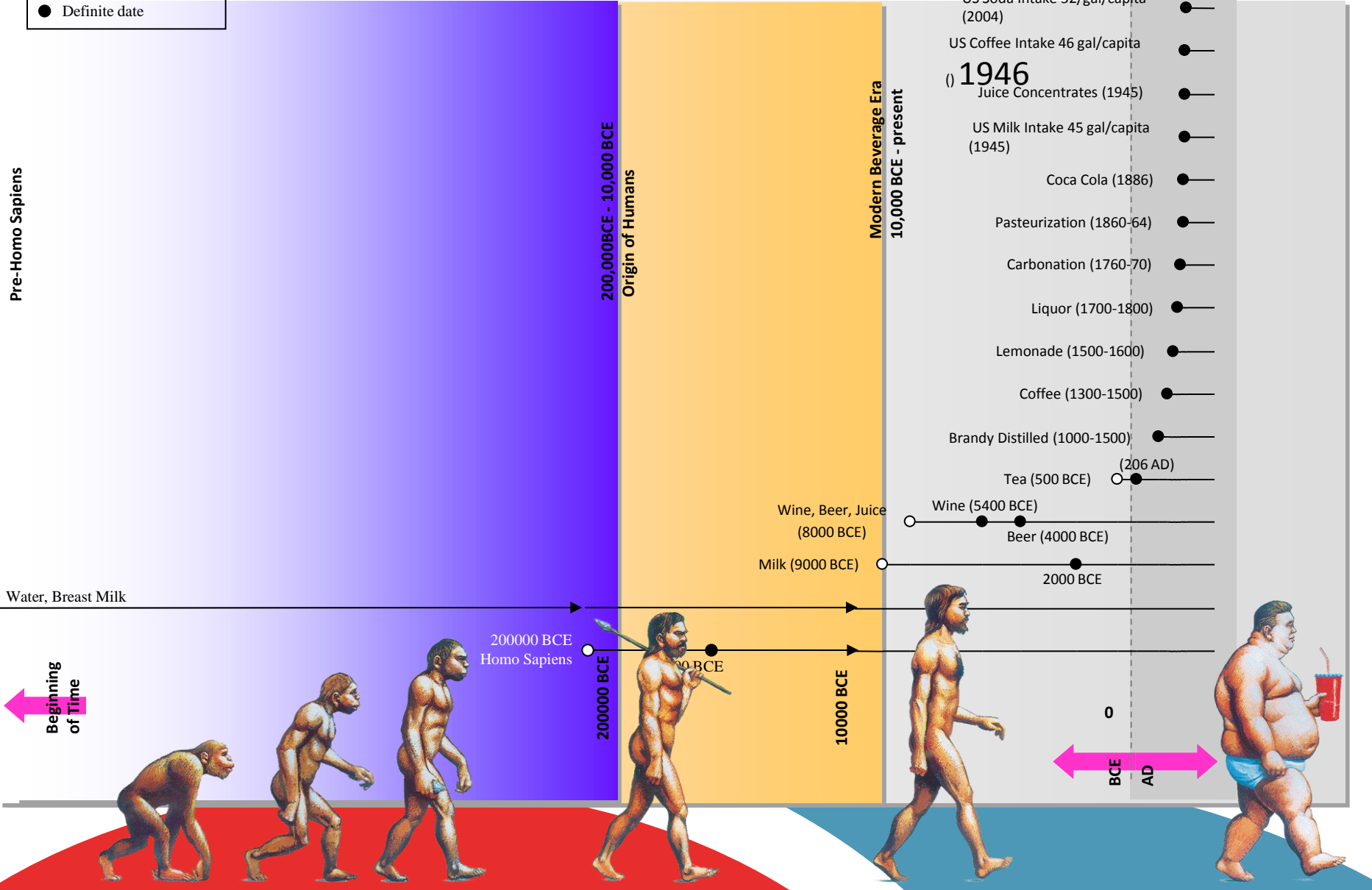
3. Studies suggest that a 10% price increase might decrease consumption of unhealthy foods and beverages by 8-10%. A 1 cent per ounce tax on a 20 ounce bottle could bring in \$13.2 billion in tax revenue for obesity prevention.

Remarkably Short History for Caloric Beverages:

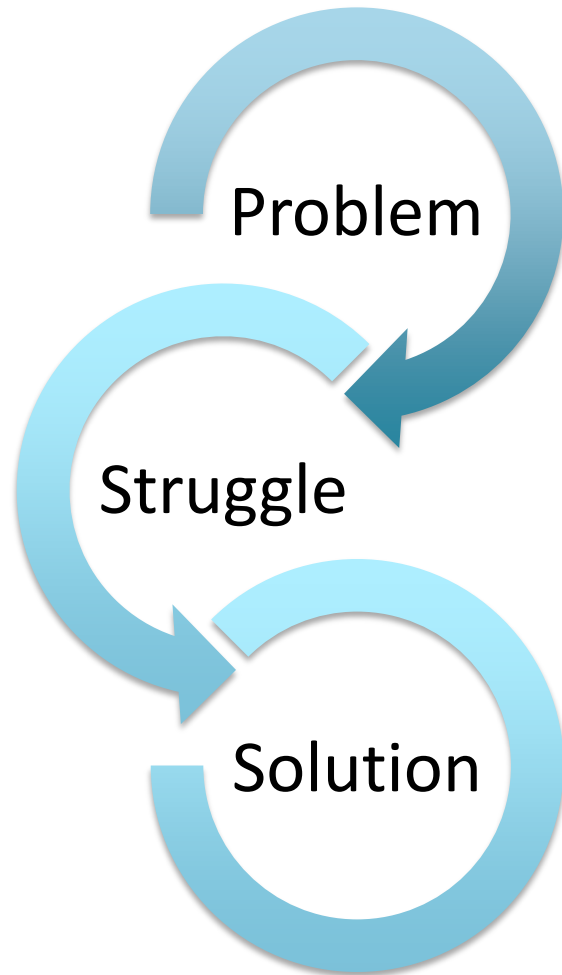
○ Earliest possible date
● Definite date



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Smart School Foods



1. Only 41% of school districts prohibit schools from offering junk foods as a la carte items during breakfast or lunch periods.
2. Comprehensive nutrition education in schools has proven successful in reducing obesity, especially in low-income students who are disproportionately affected by the childhood obesity epidemic.
3. Children who participate in the National School Lunch Program eat greater amounts of healthy foods, get more essential vitamins and minerals, drink fewer sugar-sweetened beverages, and have an overall better quality diet.

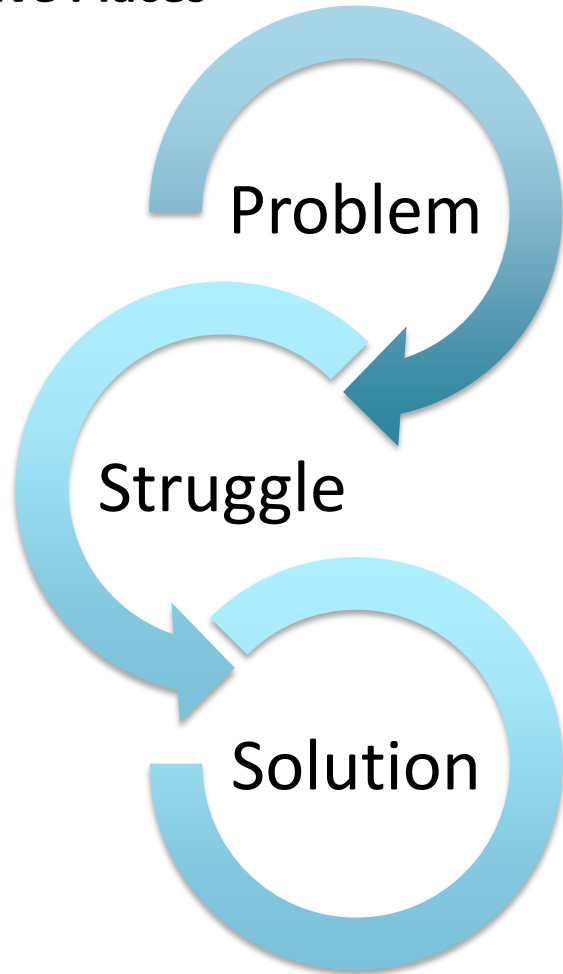
Active Places

- **Giving families safe places to be active creates thriving communities. All communities can prosper with nearby playgrounds, parks and safe streets to walk or bike.**

Active Kids Out of School

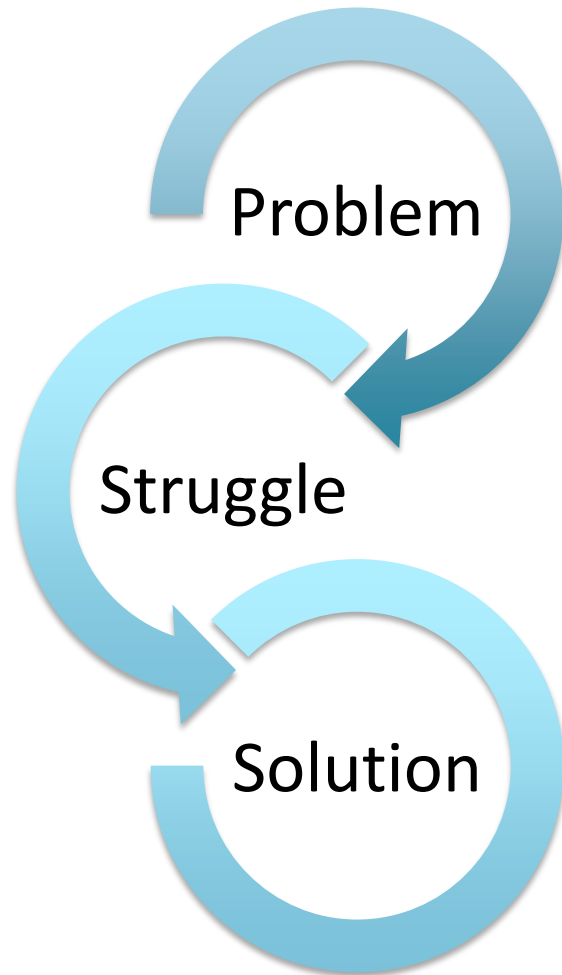
- **Many children in after-school programs don't get enough physical activity. National standards can help kids stay active after the school bell rings.**

Active Places



1. Lack of access: People who have parks or recreational facilities nearby exercise 38% more than those who do not have easy access.
2. Lower-income communities, especially Latino or African-American neighborhoods, often have fewer resources to support active lifestyles and places to play and be active.
3. Community-based physical activity interventions are cost-effective, reducing new cases of many chronic diseases and improving quality of life.

Active Kids Out of School



1. More than 62% of children do not get daily vigorous physical activity, and only 5% report any kind of vigorous activity.
2. About 15% of children spend up to 540 hours in after school programs each year. More minorities are in after-school programs:
 - African-Americans 24%
 - Hispanic 21%
3. A comprehensive community-based intervention that increased opportunities for physical activity before, during, and after school successfully reversed obesity in children.

Message Core



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Significance of the problem...

- Childhood obesity threatens the health of our young people and their future potential
- We all pay the price for childhood obesity

Evidence we can turn it around...

- There's cause for optimism
- Creating healthy communities is key to reversing the obesity epidemic
- We're turning communities of need into communities of opportunity

Voices for Healthy Kids is a collaboration between the American Heart Association and the Robert Wood Johnson Foundation working to engage, organize and mobilize people to improve the health of their communities and reverse the childhood obesity epidemic.

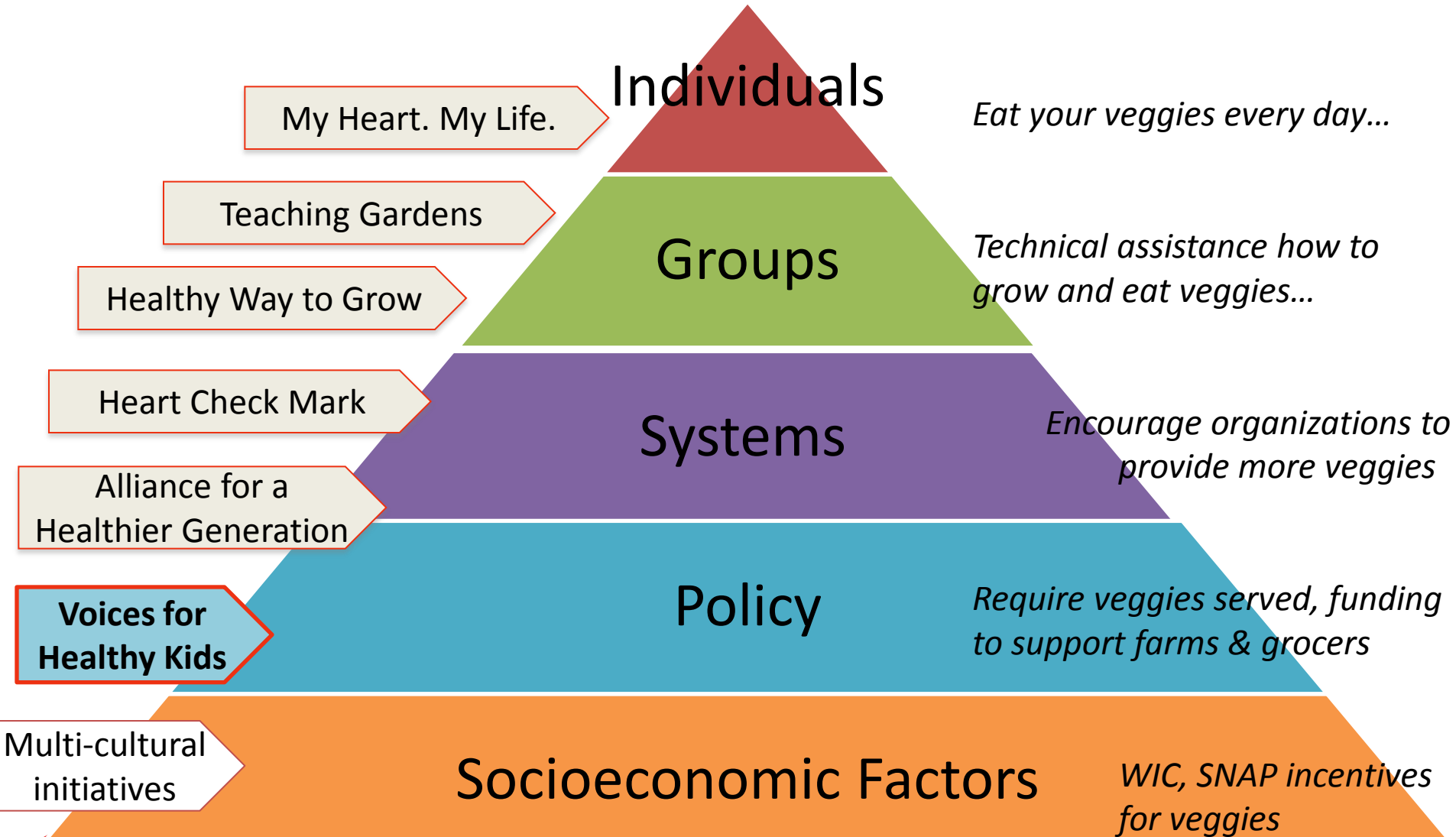
Voices for Healthy Kids brings together resources to make sure communities have the tools they need to make the changes they want — to eat healthier and play more.

- We provide grants to state coalitions ready to activate and mobilize on our issue advocacy campaigns.
- We provide funding, campaign toolkits and expertise.

There is growing evidence that kids eat healthier and move more when there are policies that increase access to healthy foods and safe places to play. It just makes sense.

Messaging: What's different?

We're laser-focused on six policy priorities



Recent Examples

Less sugar for healthier hearts



Local campaign seeks unsweetened drink options

Many of the largest soda manufacturers also sell drinks with considerably less sugar, including water, juice and diet soda. One group is pushing for more promotion of those healthier drinks, part of the growing effort to discourage sugary beverages.

[FULL STORY >>](#)

Healthy Drinks
Marketing Matters
Active Places
Food Access

preventobesity.com Effect on Kids The Movement Victories

Foul Ball: Majority of Products Endorsed by Athletes are Unhealthy

October 9, 2013 — Elizabeth Brotherton-Bunch

Obesity Issue(s):
Junk Food Energy Drinks Fast Food Soda Food Marketing Digital Marketing Mascots and Characters and Toys Media

The bulk of food and beverage brands endorsed by professional athletes are for unhealthy products such as sugary sports drinks, soft drinks and fast food, our friends at the Yale Rudd Center for Food Policy & Obesity report.

In a study published Monday in the journal *Pediatrics*, researchers find that the nation's top professional athletes endorsed 44 different food and beverage brands in 2010. Seventy-nine percent of the 62 food products endorsed were energy-dense and nutrient-poor, and 93 percent of the 46 advertised drinks had 100 percent of calories from added sugar.

Voices for Healthy Kids shared a link.
October 7

"We know that a lot of things contribute to poor nutrition and obesity but access is a key issue," says Dr. Giridhar Mallya of the Philadelphia Department of Public Health.

"People don't have the ability to get healthy foods in their community at an affordable price. That makes it that much harder for them to be healthy overall."

See how The Food Trust and its partners are improving food access and health in Philadelphia and around the country.

<http://t.co/fxvQfKGPnM>



Everyone Deserves Access

"We know that a lot of things contribute to poor nutrition and obesity but access is a key issue," says Dr. Giridhar Mallya of the Philadelphia Department of Public...

Opening school playgrounds after hours



Sharing agreements allow community use of facilities

School districts can increase physical activity among children and young adults by opening playgrounds, gyms and fields to the community outside of school hours, especially in low-income areas. More than 61 percent of districts do have agreements that allow their facilities to be used, but many are in more-affluent areas.

[FULL STORY >>](#)

More Information

▼ Connect with Voices for Healthy Kids!



► Signs of Progress Webcast

► Materials

► Grant Resources

► Resources

► Contact Us



Voices for Healthy Kids

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Taking Action to Prevent Obesity



Voices for Healthy Kids is a new collaboration between the American Heart Association and the Robert Wood Johnson Foundation working to engage, organize and mobilize people to improve the health of their communities and reverse the childhood obesity epidemic. There are now more than 23.5 million children and teens in the U.S. who are overweight or obese. Voices for Healthy Kids is focused on advocating for changes to local, state, and federal policies in order to help young people eat healthier foods and be more active.

To reverse the childhood obesity epidemic, Voices for Healthy Kids pursues policy-change strategies that research and practice suggest will have the greatest impact. Those strategies are focused on six key areas:

- improving the nutritional quality of snack foods and beverages in schools;
- reducing consumption of sugary beverages;
- protecting children from unhealthy food and beverage marketing;
- increasing access to affordable healthy foods;
- increasing access to parks, playgrounds, walking paths, bike lanes and other opportunities to be physically active; and
- helping youth-serving programs increase children's physical activity levels.

The Voices for Healthy Kids approach uses a model that includes six teams of expert organizations to execute and support the success of campaigns in these strategic areas. The organizations include [Safe Routes to School National Partnership](#), [The Food Trust](#), [YMCA of the USA](#), [The Pew Charitable Trusts](#), [The Yale Rudd Center for Food Policy & Obesity](#), and [Berkley Media Studies Group](#). These experts will provide technical assistance for state and local campaigns, while strengthening national coalitions to fight childhood obesity.

In taking on this challenge, we recognize that childhood obesity affects the entire country, but it does not affect all communities equally. Voices for healthy Kids is committed to reaching communities hit by the epidemic, including communities of color and lower-income communities.

Please visit this website often for updates. We will be sharing more information about this collaboration soon, including resources, news and other tools to inspire your advocacy efforts, so be sure to stay connected. Together, we can reverse this epidemic.



VoicesForHealthyKids

@Voices4HK

Voices for Healthy Kids is taking action to prevent obesity. Join @American_Heart and @rwjf by raising your voice to transform where kids live, learn & play.

voicesforhealthykids.org

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TWEETS

98
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Tweets



VoicesForHealthyKids @Voices4HK

Great statistical fact sheet on [#healthdisparities](#) and [#childhoodobesity](#) from @American_Heart : bit.ly/16Ki9g0

4 Oct