Childhood Obesity: School and Community Solutions

Oregon Family Impact Seminar 2016

Hallie E. Ford Center for Healthy Children & Families

OSU Extension Service - Family & Community Health

College of Public Health & Human Sciences

Oregon State University

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With

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Purpose of the Oregon Family Impact Seminar

This seminar connects state policymakers with national experts and the best scientific evidence. It fosters learning in a nonpartisan, solution-oriented way, with a focus on the impact of policies on families.

The seminar is exclusively for legislators, legislative aides and state agency leaders.

Each Oregon Family Impact Seminar includes:

Family impact perspective
Seminars provide policymakers with the opportunity to understand the impact of policies on families.

Latest scientific information
Seminars feature national researchers and policy analysts who present nonpartisan, state-of-the-art information on a range of policy options, and who avoid advocacy for particular policies.

Neutral nonpartisan setting
Seminars provide a neutral setting and atmosphere for policymakers to discuss issues and find common ground for policy development.

"Childhood Obesity: School and Community Solutions"

Oregon Family Impact Seminar 2016

The Oregon Family Impact Seminar is a member of the Policy Institute for Family Impact Seminars. Additional information about this national organization, including seminars held in other states, can be found at http://familyimpactseminars.org.

For more information about the Oregon Family Impact Seminar, please visit http://health.oregonstate.edu/hallie-ford/family-impact-seminar-series or contact familyimpact@oregonstate.edu.

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Presenters

The 2016 Oregon Family Impact Seminar featured the following speakers:

Craig Gundersen, PhD, is the Soybean Industry Endowed Professor of Agricultural Strategy at the University of Illinois.

Dr. Gundersen is an internationally renowned expert on the causes and consequences of food insecurity, and on evaluations of food assistance programs. He is especially knowledgeable about the Supplemental Nutrition Assistance Program (SNAP, formerly known as the Food Stamp Program). He has been awarded numerous honors for his research and communication that informs economic perspectives and policy. He is a member of the Technical Advisory Group for Feeding America and is the lead researcher on their Map the Meal Gap project.

Kathy Gunter, PhD, is Associate Professor of Kinesiology and Health Extension Specialist in the College of Public Health and Human Sciences at Oregon State University.

Dr. Gunter leads the Healthy Lifestyles and Obesity Prevention Research Core at the Hallie Ford Center for Healthy Children and Families. Her research focuses on developing, implementing, and evaluating physical activity programs. She has directed these efforts toward individuals, families, childcare environments, schools and, most recently, rural populations. Dr. Gunter is currently the Principal Investigator on a five-year USDA-funded research project to understand the effects of school and community environments on family and child physical activity and healthy eating behaviors, and on child risk for obesity.

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Childhood Obesity: School and Community Solutions

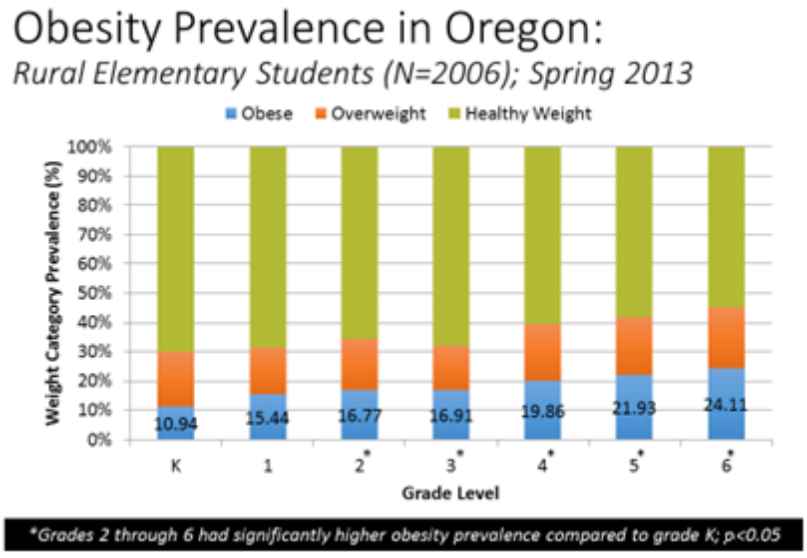
How big a problem is childhood obesity?

Childhood obesity is a public health issue of monumental importance in Oregon and nationally. During childhood, obesity is associated with physical, psychological, and social problems and leads to future risk of disease and premature death as adults. As indicated in the Oregon State Health Improvement Plan (2015-2019), obesity is the second leading cause of preventable death in Oregon and nationally.[1]

Childhood obesity is defined as weights above the 95th percentile according to age- and sex-specific growth charts, and overweight is defined as weights between the 85th and 95th percentiles. The Centers for Disease Control and Prevention (CDC) report that in the last 30 years, obesity has doubled in children and quadrupled in adolescents.[2,3]

Over the past decade, obesity rates have remained constant at the high rate of 17 percent, affecting 12.7 million children and youth. When obesity and overweight are combined, this group now includes an alarming one-third of children of all ages—over 25 million. A 2014 national survey (NHANES) based on physical measurements shows increased obesity with increasing child age: 9.4% of children aged 2-5 years, 17.4% for 6-11 years, and 20.6% for youth 12-19 years.[3] Moreover, longitudinal research confirms increasing obesity with increasing age in children.[4]

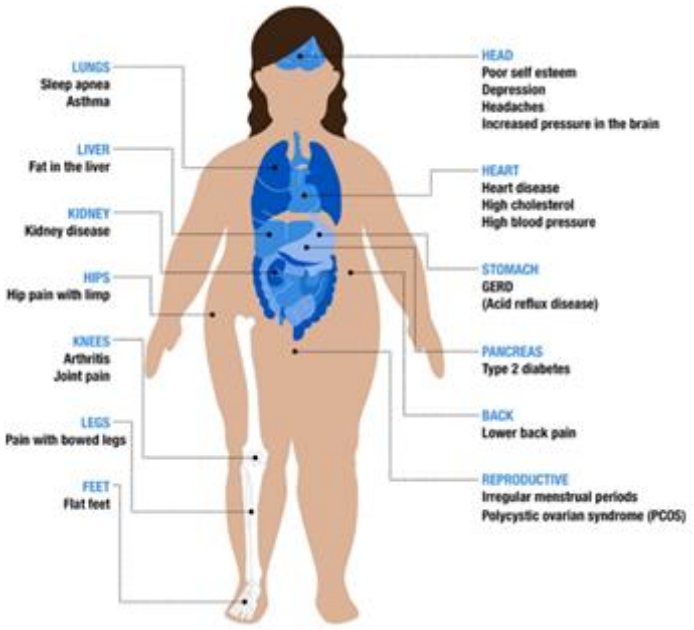
Oregon does not have a system for monitoring child health indicators (such as measured height and weight) for elementary school children. However, a 2013 study[5] measured 2,006 kindergarten to 6th grade students in primarily rural Oregon and revealed the following prevalence of obesity that increased with school grade level:



Why does childhood obesity matter?

Childhood obesity leads to serious physical health problems.

- Obese children are more likely to develop asthma, have their asthma exacerbated, and use more asthma-related health care.[6,7]
- Overweight children have more risk for chronic health conditions, such as high cholesterol, high fasting glucose levels, and high blood pressure, and poorer overall health.[8]



Nationwide Children's (nationwidechildrens.org/complications-of-childhood-obesity/)

Childhood obesity has negative psychological and social effects.[9]

- Obese and overweight youth are more likely to be bullied and stigmatized.10
- Chronic obesity in childhood is related to serious psychiatric disorders in youth, including depressive disorders for boys and oppositional defiant disorder for boys and girls.[11]
- Children who are obese have less developed motor skills and lower performance on attention and concentration tasks compared to healthy weight peers.[12]

Unhealthy weight begins early and can last a lifetime.

- Children who are overweight at age five are four times more likely to be obese as adolescents than healthy weight peers.[4]
- Overweight adolescents are over six times more likely to be overweight adults compared to healthy weight youth.[13]
- Child and adolescent overweight/obesity increases risk for hypertension, diabetes, stroke, asthma, polycystic ovary syndrome, coronary heart disease, and type 2 diabetes when the children become adults.[14,15]

The problem of unhealthy weight begins early and can last a lifetime — early prevention is critically important.

Childhood obesity is costly.

An additional $14.1 billion is spent each year in the United Staes on health care costs related to obesity in children.[16]

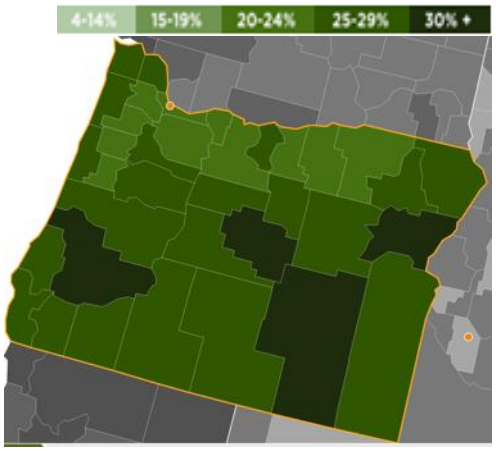
- Economic models predict national health care costs could be reduced by an estimated $29 billion over five years if adult obesity were reduced by 5 percent.[17]
- For Oregon, medical spending on obesity-related diseases is $1.6 billion per year.[1]

What contributes to childhood obesity?

Communities and schools where children live and learn:

- Limited availability of healthy food and beverage options in public service areas and limited availability of supermarkets in underserved areas place children at risk for obesity.[18]
- Higher costs of healthier foods make their consumption less likely
- Insufficient physical activity during recess or other school settings can increase obesity risk.[19,20]
- Lack of access to community resources that support physical activity (programs, bike trails, recreation centers) also can limit physical activity opportunities.

The family home environment:



- Poverty increases the risk for obesity.[21,22]
- Food insecurity can limit access to healthy foods and hits hardest those children in families below 185% of the federal poverty level.
  - Food insecurity is a problem in Oregon, with four counties reporting >30% of their children being food insecure (*right figure*).[23]
- Family practices (e.g., meal times), knowledge, and attitudes about healthy behaviors impact risk for obesity.[24]
- Children (10-17 years) with a parent/caregiver who graduated from college have an obesity rate of 9.5% compared to 30.4% of those with a parent/caregiver who did not graduate from high school.[25]
- Oregon youth who are black (33%) or Hispanic (38%) are at higher risk of being overweight than white youth (22%);[25] some underserved groups, such as American Indian children or children of migrant work families, may experience even greater risk.

Individual factors:

- Children born at a high birth weight (>8 lbs 13 oz) are twice as likely to be obese.[26]
- Babies who are breastfed may be protected against development of childhood obesity.[27,28]
- The energy balance between what and how much food is eaten in relation to how much energy is used in physical activity and other biological functions is important for weight health.

About 25% (or 210,290) of Oregon children lived in food-insecure households in 2014

Feeding America, 2014

What are solutions to childhood obesity?

Efforts to reduce childhood obesity increasingly focus on policies that **change environments** to support healthy choices and discourage unhealthy choices by children and their families. Here, we specifically consider three of the population health policy strategies proposed in the 2015-2019 Oregon Health Improvement Plan.

1. Levels of Physical Activity

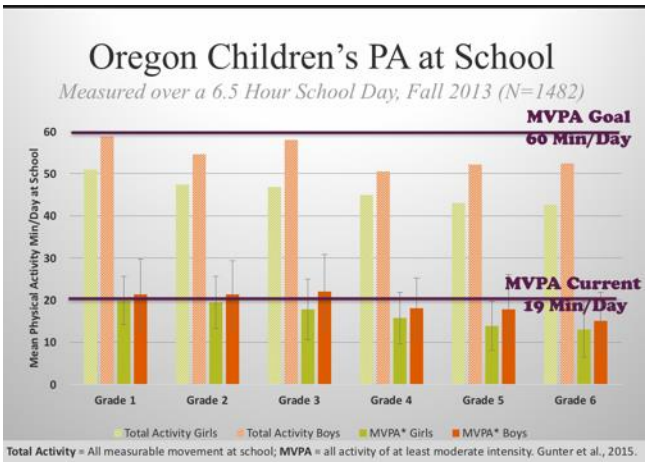
Physical activity in children is vitally important to children's health in terms of body weight, bone health, chronic disease risk, mental health, and academic performance. Children spend the majority of their day in school, so ensuring adequate levels of physical activity in the school setting is a viable strategy to promote lifelong health.

POLICY STRATEGY: Increase physical activity at school

- **Rationale:** Increased physical activity at school leads to reduced obesity and increased academic performance.

What does the evidence say?

- Health and fitness: Moderate to vigorous physical activity contributes to healthy weight, strong bones, reduced risk of chronic diseases (e.g., diabetes, heart disease), and better mental health.[29]
- Academic: Moderate to vigorous physical activity contributes to higher standardized test scores, better attention on academic tasks, better recall and memory, and fewer problem behaviors.[30]
- However, research with ~1,500 Oregon 1st-6th graders in rural schools indicated that students engaged in less than 20 minutes of moderate to vigorous physical activity at school vs. the recommended 60 minutes.[5]



Policy implications for increasing physical activity and reducing obesity risk

- Research supports the following strategies:[19,20,31-36]
  - Optimized physical education (PE), including > 150 minutes/week for primary and 225 minutes/week for secondary students
  - Daily classroom-based physical activity
  - Daily active recess
  - Active transportation (e.g., walking or biking to school)
  - After school programs that emphasize physical activity

Strategies should enable children of all abilities/developmental stages to participate.

2. Availability of Specific Foods and Beverages

Many efforts focus on reducing the intake of foods with little nutritional value, like sugary beverages, and increasing the intake of healthy foods, like fruits and vegetables.

POLICY STRATEGY: Impose a substantial tax on soda in order to reduce consumption.

- **Rationale**: Drinking soda contributes to obesity,[37] and imposing a tax will reduce soda consumption and therefore reduce obesity.

What does the evidence say?

- Economic theory predicts that taxes on soda will reduce soda consumption and will generate tax revenue, and reducing consumption of sugar sweetened beverages is associated with decreasing weight.[38]
- However, it has not been established that soda taxes lead to reductions in obesity,[39-41] particularly as people may substitute other high sugar items. Long-term studies on this relationship are not currently available.
- Whenever food prices in an area increase, food insecurity rates also increase;[42,43] therefore, the impact of a soda tax on food security should be considered.

Policy implications for reducing obesity

- There is a lack of clear evidence that a soda tax would reduce obesity, and there may be negative unintended consequences.

3. Federal Food Assistance Programs and Policies

Food assistance programs are intended to reduce hunger, particularly for at-risk children and women. Three main nutrition assistance programs in the U.S. currently provide low-income children with greater access to food:

> *"SNAP plays a critical role in providing a social safety net to protect against food insecurity in the U.S. What is less well-known is that it also helps to reduce childhood obesity."*
>
> Dr. Craig Gundersen

Supplemental Nutrition Assistant Program (SNAP)

- Over 45 million people nationwide received food assistance in 2015 through SNAP, including more than 779,000 Oregonians, about 19 percent of Oregon's residents.[44]
- Average benefit level is ~$459/month for a family of four.[45]
- Eligibility in Oregon is based on a gross income <185% of the federal poverty level ($3738 monthly for a family of four) and net income less than poverty level ($2021 for family of four).

Special Supplemental Nutrition Program for Women, Infants & Children (WIC)

- More than 8 million women and young children receive food assistance nationwide from WIC, including about 100,000 in Oregon.[46]

National School Lunch Program (NSLP)

- NSLP serves about 30 million children nationwide, and almost 300,000 in Oregon.[47]

POLICY STRATEGY: Restrict SNAP-eligible participants and foods.

- **Rationale:** Greater restrictions on who is eligible for SNAP and what foods are included under SNAP benefits will lead to the consumption of healthier foods and reduce obesity.

What does the evidence say?

- Among people who are eligible to receive SNAP, those who receive SNAP benefits are no more likely to be obese and may be less likely to be obese than peers who are SNAP-eligible but do not receive benefits.[48]
- Higher SNAP benefit levels have been associated with *lower* obesity.[49]
- Restrictions on SNAP foods will likely *increase* food insecurity through decline in SNAP participation[48] and increases in food costs related to designating eligible foods in retail outlets. Moreover, these restrictions could increase obesity.

Effective policy approaches to SNAP and reducing obesity:

Implications from research suggest the following:

- Encourage increased SNAP participation among currently eligible families.
- Resist block granting to allow SNAP to serve its safety net function of expanding to serve more families during times of economic strain.
- Support even higher SNAP benefit levels for participating families.

What programs and policies prevent childhood obesity?

The strategies discussed in the Oregon Health Improvement Plan (2015-2019) generally align with national recommendations from the Institute of Medicine (2012) on reducing adult and child obesity in the US population, which are:

1. Make the promotion of physical activity a priority by substantially increasing access to places and opportunities for such activity.
2. Create food and beverage environments to reduce unhealthy food and beverage options and substantially increase healthier food and beverage options at affordable, competitive prices.
3. Act quickly, aggressively, and in a sustained manner on many levels to transform the environment that surrounds Americans with messages about physical activity, food and nutrition.
4. Health care/health service providers, employers, and insurers should increase the support structure for achieving better population health and obesity prevention.
5. Make schools a national focal point for obesity prevention.

As indicated by these recommendations, the greatest impacts on the prevention of obesity are found in solutions aimed at policy, systems, and environmental changes that support the healthy choices of families and children. This high-level approach is more resource- and time-intensive than efforts focused on individuals; but it is more effective, equitable and sustainable.[50]

Oregon has been a leader in obesity prevention efforts, including:

- Legislative Taskforce for a Comprehensive Obesity Prevention Initiative (2007) produced a comprehensive report on obesity prevention strategies.
- House Bill 2545 (2015) expanded the free lunch program for low-income school children.
- House Bill 2726 (2009) mandated local food chains to provide nutrition information for consumers.
- House Bill 3141 (2007, to be implemented 2017) established minimum weekly requirements for physical education at school.
- Oregon's 2015 State Health Improvement plan included "*slowing the increase of obesity*" as one of seven key priorities areas.
- Oregon adults have the best rates in the country of adults eating at least one vegetable a day and among the top 6 states for eating at least one fruit a day.[51]

Summary

The prevalence of childhood obesity is high in Oregon and in the U.S. and represents a critical public health issue with long-lasting physical, mental, and social impacts. Childhood obesity represents a major economic and health threat into the future.

Two national experts, Dr. Craig Gundersen (University of Illinois) and Dr. Kathy Gunter (Oregon State University), presented current models and scientific evidence on state- and national-level strategies designed to address childhood obesity.

Key findings presented at the 2016 Oregon Family Impact Seminar include:

- There is no consistent system to directly measure and track childhood obesity in Oregon.
- Based on several studies, prevalence of childhood obesity in Oregon continues to be high and increases with age, with estimates of up to 24 percent of 6th graders.
- Physical activity is one critical element to reducing obesity, but some Oregon children are achieving less than one-third of the recommended 60 minutes of moderate to vigorous physical activity while at school.
- Poverty is related to childhood obesity and to food insecurity.
- The effect of soda taxes on reducing childhood obesity is equivocal.
- Policies to increase access to healthier foods for children in poverty could focus on increasing SNAP participation and increasing SNAP benefit levels.

Selected Resources

For further information, we suggest selected resources below in addition to the references listed on the following page:

The State of Obesity: Better Policies for a Healthier America
http://stateofobesity.org/childhood-obesity-trends/
http://stateofobesity.org/states/or/ (data specific to Oregon)

Feeding America: Map the Meal Gap
http://map.feedingamerica.org/county/2014/overall

Institute of Medicine Reports

(1) Early Childhood Obesity Prevention Policies (2011)
http://nationalacademies.org/hmd/reports/2011/early-childhood-obesity-prevention-policies.aspx

(2) Accelerating Progress in Obesity Prevention: Solving the Weight of the Nation (2012)
http://www.nationalacademies.org/hmd/Reports/2012/Accelerating-Progress-in-Obesity-Prevention.aspx (Report) http://www.nationalacademies.org/hmd/Reports/2012/Accelerating-Progress-in-Obesity-Prevention/Infographic.aspx (Infographic)

(3) Evaluating Obesity Prevention Efforts: A Plan for Measuring Progress (2013)
http://www.nationalacademies.org/hmd/Reports/2013/Evaluating-Obesity-Prevention-Efforts-A-Plan-for-Measuring-Progress.aspx

County Health Rankings: Oregon 2015 (data on population health and risk factors by county)
http://www.countyhealthrankings.org/app/oregon/2015/overview

What is "Policy, Systems and Environmental Change?" (two-page overview)
http://www.cookcountypublichealth.org/files/CPPW/PSE Change.pdf

Center on Budget and Policy Priorities (nonpartisan research and policy institute): SNAP Works for America's Children
http://www.cbpp.org/sites/default/files/atoms/files/9-29-16fa.pdf

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