

February 21, 2010

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Dear Ms. Stetz-Waters

Enclosed is an analysis of the obesity issue in Oregon and some methods of halting and potentially reversing the obesity trend among children in Oregon. The potential for making these changes utilizing existing infrastructure is exciting and very plausible.

After doing this research, I have an appreciation for how great the challenge is to change habits, especially those influenced by our culture, economics, environment, education and lifestyle.

It was interesting to see that, while there has been some progress made there is still much to do to make Oregon a more health conscious state. Laws governing food served in schools, plans to increase physical activity for children in school and implementation of programs making fresh produce more available to all sectors of the population have been implemented. This research paper will highlight some other viable options while utilizing existing infrastructure to improve the health environment of children in Oregon.

I enjoyed doing this research since the subject of obesity prevention among children in Oregon is something that I believe is not only important, but a project that could have such positive effects on the children throughout their lives. This is not an easy situation, but there is the potential to make a difference in many lives, and there are viable solutions to implement within existing organizational structures.

Sincerely,

Joyce Christopher

Obesity Prevention in Oregon

Written by

Joyce Christopher
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WR227

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Executive Summary

The medical community recognizes obesity as a major medical problem throughout industrialized nations. This crisis is currently affecting Oregon's children, with the potential of reducing the length and quality of their lives. Different aspects of our lives, such as education, culture, environment, economics and lifestyle influence how to implement solutions. With the potential increased financial impact on Oregon's infrastructure as well as the negative effect, obesity has on an individual's quality and longevity of life, obesity prevention is an issue that needs addressing now. It is only through consistent implementation over the next several years that Oregon's population can expect to benefit both physically and financially.

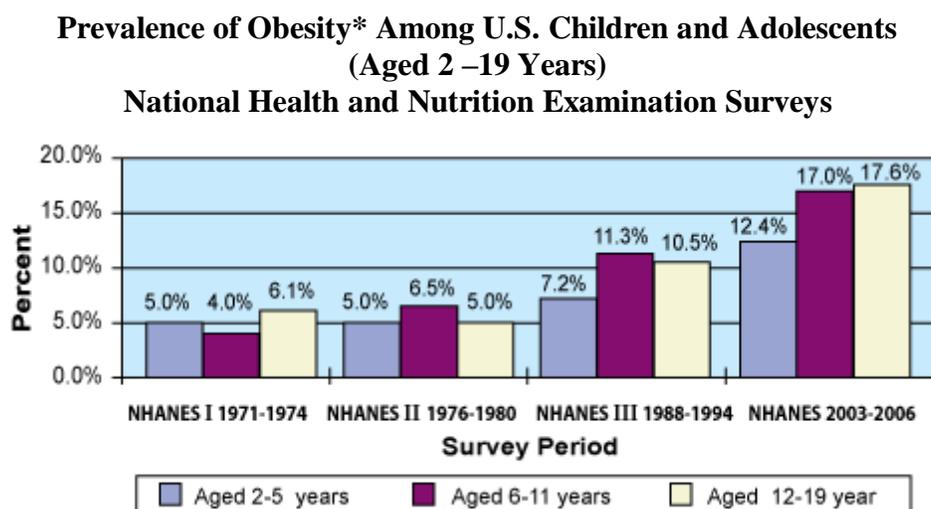
This research utilized information from both a national perspective as well as a local perspective. Reviewing programs in both Oregon and other states helped to identify the best way to utilize existing infrastructure, such as public schools, recreation centers, and other venues that directly affect children in their daily lives. In researching solutions, the following items were included.

- Federal data to put together a comprehensive state proposal
- Investigate successful programs utilized in other states
- Identify existing state and local entities and their potential contribution to a comprehensive plan in Oregon
- Research the influences of cultural customs on obesity

Through implementation of a comprehensive plan to increase activity and improve healthy eating habits for all children within the state of Oregon, the state will realize three goals. The overall improvement of health of children, a goal the medical community is interested in achieving. Secondly, a reduction in medical and disability costs paid by the taxpayer base, and lastly, but perhaps most importantly, an improvement in the life expectancy and quality of life for young Oregonians. The need for a lifelong struggle with obesity can be prevented if good health habits are formed early in young Oregonians.

Introduction

Obesity throughout the world has increased over the last 30 years. Health professionals worldwide have recognized the implications of this increase. This reality will have dire effects on the quality of life as well as life expectancy for individuals that fall into the category of obese. Overweight individuals are also at risk for more health related problems throughout their lives. According to the World Health Organization (WHO), there are more than 1 billion overweight adults, “obesity has reached epidemic proportions globally”. (*WHO Obesity Fact Sheet p.1*) Additional statistics from WHO include the fact that the number of people that are overweight or obese has tripled since the 1960’s, and as of the year 2000, over 15% of children in the United States are overweight. (*WHO Obesity: Preventing p 3*) Figure 1 shows the increase in obesity among children in the United States over the last 30 years.



*Sex-and age-specific BMI \geq 95th percentile based on the CDC growth charts.

**Figure 1
Prevalence of Childhood Obesity from 1971-2006
(CDC NHANES Survey p2)**

As Figure 1 “Prevalence of Childhood Obesity from 1971-2006” shows, there has been a gradual increase in childhood obesity since 1971, but there has been significant increases in these numbers since the late 1980’s.

The Problem

Unfortunately, the United States is one of the countries leading the pack in these statistics. It has become clear that the United States must consider ways to reverse this trend and improve our population's health in the process. However, what is the best approach for this nation to improve the country's statistics in this area? Is this even an area to approach from the public perspective or does this responsibility rest with each individual? How do culture, economics, family lifestyle, environment, education, and individual freedom add to the complexity of this issue? Is there a multifaceted approach that can address the complexity these areas add while incorporating some solutions through state and local government structures?

Definitions

Before these questions can be answered, an understanding of some basic information behind the statistics, as well as the multifaceted nature of the problem of obesity. The generally accepted definitions of "overweight" and "obesity" is in terms of BMI or the Body Mass Index. The BMI is the measurement of weight (kilograms) divided by height (meters). The diagnosis of being overweight requires a BMI of 25kg/m², while anything over 30kg/m² is obese. (WHO Obesity Fact Sheet p1) These are strictly guidelines, since an athlete could potentially have higher BMI numbers without being overweight. For the average person, these guidelines work well, and are a measurement that can quantify overall results when used in research studies.

So what is the best method for stopping and even reversing the trend that has been occurring throughout this country? The formula to reduce weight is simple and understood by health professionals around the world. The formula is simply "eat less and increase activity". This basic formula will in fact reduce an individual's overall BMI. The reality is that to accomplish this seemingly simple process involves many aspects of an individual's life. Some of the components involved include culture, family lifestyle, education, economics, and environment, the latter three areas being arenas affected directly by local or federal government.

The Role of Government

One might ask what role the United States Government has in the area of obesity and weight management. A cursory answer to this question might be that the government has no place in telling an individual what to eat, or how much to eat; or how much exercise an individual should be involved in over the course of a day or week. However, looking past an initial visceral reaction to the Big Brother mentality, most would argue that it is the government's responsibility to help regulate a safe and healthy environment for its citizens. Figure 2 below helps illustrate this concept.

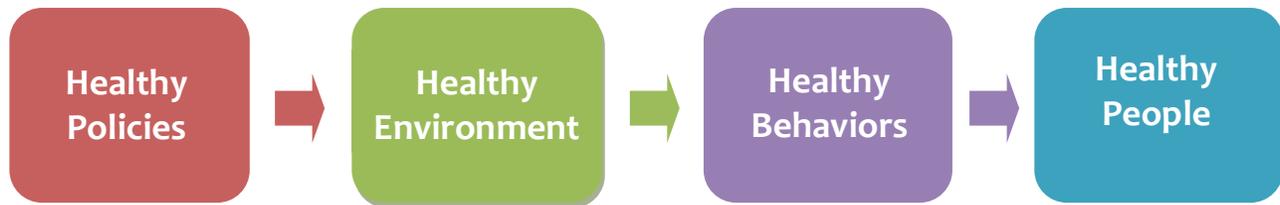


Figure 2
Environmental Health Policies Flow Chart
(Implementation and Measurement Guide pg 1)

Figure 2 shows a flow chart prepared by the CDC, explaining the involvement of government and its responsibility in creating healthy environments to help people have healthy lifestyles. According to Tortolero, Popham and Jacobson “Changing collective behavior requires changing the environment in which those behaviors occur; possible legal-based efforts include both policy and environmental strategies.” (Tortolero p 99) This indicates that there are areas in which the government needs to be involved.

Environment

Environmental control includes regulating activities such as food advertising and even the distribution or location of types of foods sold. Recently there has been local government regulation and intervention in areas such as smoking and removing Trans fats from restaurant menus. Some local governments have added nutrition fact labeling requirements at restaurants and fast food places. Local government has control over these types of environmental changes

Through zoning and planning, local governments also have control over location and number of fast food businesses, bike paths, location of schools, parks and other recreation sites. Creating safe environments by reducing crime and enforcing drug laws is another area under control of local government. Inner city areas where parents have limited resources and the outdoor environment is not conducive to safe activity require safe alternatives. In areas of the country where weather limits physical activity, creative solutions are required to create adequate areas to allow children room to play.

Economics

To a certain extent, there is governmental influence in the area of economics. Social programs such as Welfare, unemployment, and WIC help to low income families to help improve their economic stand in some manner, whether financially or in helping support food purchases. Another aspect where there is governmental involvement in economics is in the area of Medicare. The long-term effects of excess weight and obesity lead to chronic disease such as diabetes, which in turn leads to conditions such as heart disease, retinopathy, neuropathy, kidney failure and other vascular conditions. All of these chronic

conditions progress over time, requiring active medical intervention. Figure 3 shows the medical costs of obesity in Oregon in 2003.

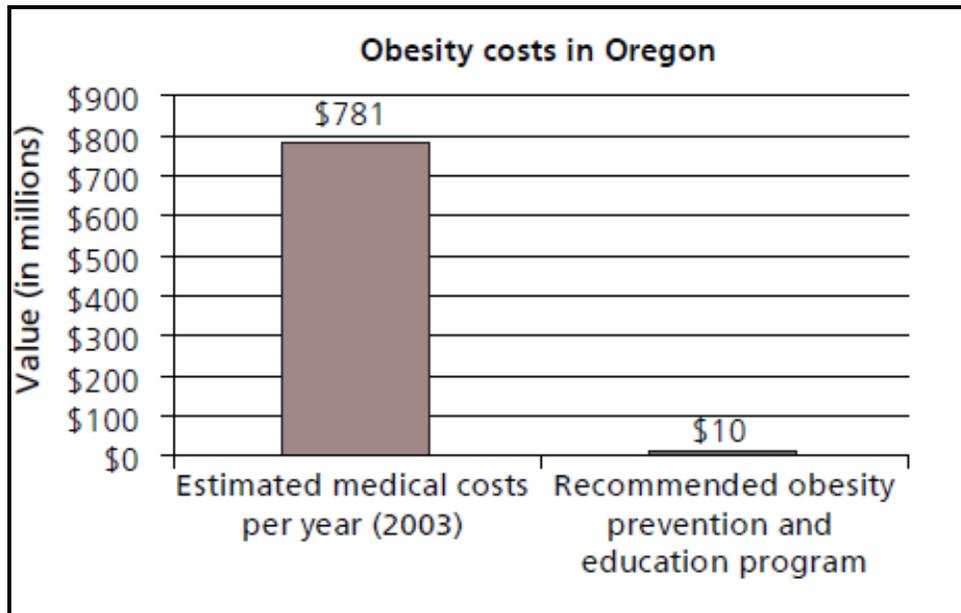


Figure 3
Oregon Obesity Costs and Obesity Prevention Costs in 2003
(ODHS Policy Recommendations p 2)

Figure 3 “Oregon Obesity Costs and Obesity Prevention Costs in 2003” illustrates the estimated medical costs associated with obesity in Oregon for one year. These costs will increase if the number of overweight and obese individuals in Oregon continues to rise. As the population ages, these costs will become part of the Medicare statistic and increase associated medical costs since most if not all conditions resulting from obesity require medical treatment. This will require more funding for the Medicare system to support the increased need in medical intervention.

Education

Government in the United States is responsible for offering education to children. While not all children attend public schools, the vast majority of the student population still attends public schools, making this another area that the government does have a responsibility related to obesity and weight management. While the initial intent of the education system within the United States was to teach the basics subjects of math, reading, writing and social science, this role has expanded as the needs of the country has changed over the decades. “Public schools—although not under the authority of local governments—also have a vital role in ensuring that children have access to healthy food and sufficient opportunities for physical activity during the school day. Clearly, local governments and public school systems can make a real difference in creating healthy food and activity environments that benefit all people living in their communities.” (CDC Implementation Guide, pg 2)

The acceptance and expectation of governmental involvement in these areas has happened over many years. The United States Government, by taking on the role to support and encourage citizens in these areas, has an implied responsibility to at least educate the population about healthy lifestyles, and encourage individuals to take on their part of the responsibility in regards to their health habits.

The Cultural Component

The obesity issue has multiple components, among which there is a cultural component. While we are all Americans and have in common things such as school and work, we bring very diverse ideas regarding food, ideal weight, physical looks etc. to the obesity discussion. People exposed to hard times and potential starvation view food very differently from those who have never experienced such basic deprivation. In many cultures, the size of a person indicated their wealth and health.

Many of us remember hearing our parents say, “finish all the food on your plate.” This is another example of a cultural component that is so ingrained in us, that we may not even realize that it is there. From a health standpoint, children should listen to their bodies and stop eating when their bodies tell them, not when they have finished everything on their plate. By bypassing the body’s messages, children may not learn when they need to stop eating, potentially resulting in their being overweight. Another common ploy parent’s use is a reward system, giving sweets or special treats for eating vegetables or other “healthy” foods. This may play a role in teaching children to prefer sweets to “healthy” items rather than teaching them to eat all foods in appropriate moderation. These interwoven beliefs and ideas affect how different groups live and eat. Incorporating cultural ideas and beliefs into the educational component of obesity will be another aspect that each area of Oregon will have to consider. Research in how to work within cultural contexts is an area that needs more study and an area that may expand over the next several years. Simply exposing people to different types of fresh produce and methods of preparing them would be one method of teaching people with multiple backgrounds healthy habits. Allowing different groups to show how they might prepare a type of food or a physical activity could encourage diversity while encouraging healthy habits. The sharing of cultural foods and preparation methods while adapting them to fit within a healthy lifestyle could benefit all different cultural groups in Oregon.

Why focus on children?

With such an overwhelming situation facing the country, one needs to ask what would be the best approach to bringing about change. There is no quick solution to the problem of obesity, but since changing habits is difficult, it would seem easiest to work on prevention as a first step to addressing this national problem of obesity. The key to prevention is to educate children and attempt to create healthy habits instead of having to change habits

once they are set. In addition, since most children are in structured environments where they are already being educated, this gives a relatively easy avenue of reaching this population. Federal, State and Local governmental agencies have more influence in reaching this population than any other sector. The public school environment can be set up to be a healthy environment – an advertising free zone, a safe environment for physical activity; fast food free zone; with an emphasis on healthy food choices.

Obesity Prevention in Oregon

While Oregon is not currently a state funded by the CDC to pursue a specific obesity prevention program, it has not been totally absent of improvement in this area. In 2007, the Task Force for a Comprehensive Obesity Prevention Initiative formed to address the issues of obesity including how to reduce the obesity trend in Oregon. Some of the staggering statistics from Oregon include a doubling of obese adults in the last 18 years and a tripling of the number of obese children in the last 20 years. (ODHS Policy Recommendations p 5) The task force identified several causes to the increase in Oregonian's waistlines:

- Eating more meals out (larger portions, higher calorie and fat content)
- More TV/Screen time (video games, internet and television watching)
- Sedentary jobs and little or no physical education in schools

Another incentive to encourage the state of Oregon to develop strategies to address the issue of obesity is to help reduce the rise in health care costs associated with obesity. The following chart summarizes the medical costs incurred due to obesity and the resulting chronic conditions.

The Task Force for Comprehensive Obesity Prevention understands that in order to facilitate and encourage healthy choices by individuals, the environment needs changing. While understanding that Oregonians need to eat better and exercise more, the actual implementation of these strategies needs support throughout the environment. This includes incorporation of parks and bike paths that are useable by all sectors of the population. Grocery stores with good, affordable selection of fresh produce, accessible by public transportation are important– again for all sectors of the population.

According to the task force, it is cheaper and more convenient to purchase and consume ready-made food and beverages which tend to carry more calories, sugar and fat, than to purchase the ingredients and prepare meals at home. (Policy Recommendations p 9) Serving sizes from restaurants and fast food places are more than one serving, and consumers have grown accustomed to these larger serving sizes. This environment needs to change. In some manner, restaurants and fast food places in Oregon need to be encouraged to reduce serving size and increase their offering of nutritious and less calorie dense foods.

Changes in Motion

On a positive note, there has been an initial investment of \$10 million for a statewide obesity prevention program. This program includes implementation of a comprehensive plan in all counties in Oregon to improve access to healthy foods and activities. Individual counties will incorporate this program to fit their needs. (ODHS Policy Recommendations p 10) Looking at the local level, the Robert Wood Johnson foundation has granted \$36K to Benton County Health Department, Corvallis Parks and Recreation and several other community partnerships to work on improving physical activity opportunities as well as improve access to affordable health foods within the local community. (Benton County Health Department p1) This is an example of a community-based solution to making changes in local policies and community environments.

Another \$3.5 million every two years supports physical education in elementary and middle schools throughout Oregon. (ODHS Policy Recommendations p 10) Unfortunately, this allocation does not include funding for all of the necessary factors needed to incorporate this plan. In addition, it does not follow through into the high school years, which are critical in establishing life long habits. The timeframe on implementation is by 2017, which seems a little too long, but at least it is a start in increasing physical activity among children.

Another national program, which is in its infancy in Oregon, is the FarmToSchool Program. This program brings foods from local farms to the local schools. The foods are not only used in making meals for the children but are used in teaching children about the origins of food and the path that food takes to get from the farm to the table. This program expands the view of food and its impact on us from both the physical and environmental standpoint. “Farm to School is a comprehensive program that extends beyond farm fresh salad bars and local foods in the cafeteria to include waste management programs like composting, and experiential education opportunities such as planting school gardens, cooking demonstrations and farm tours. The Farm to School approach helps children understand where their food comes from and how their food choices impact their bodies, the environment and their communities at large.” (FarmToSchool About Us p1) Since much of Oregon has agricultural roots, this program seems ideal for incorporating into Oregon’s school curriculum. Since it is still in its infancy in Oregon, this program will take time to affect Oregonians, but is definitely a step in the right direction.

There is also the “Healthy Schools Act” which includes consideration of biking and walking routes when planning for a new school site and additional development funding is included for improved nutrition and physical activity implementation. This proactive solution is a positive move in Oregon, but the state needs to address how to make changes within our current schools.

Proposed Solution

If Oregon required all entities licensed through the state that dealt with childcare and education to meet certain criteria it could help implement the change throughout Oregon. In day care and after school settings, programs encouraging 30-60 minutes of physical activity as well as offering nutrient smart snacks and meals supporting the five fruits or vegetables per day requirement would help reinforce healthy eating and activity habits.

The above criteria would also be applicable to all public schools in Oregon, as well as certified or licensed schools. A comprehensive approach implemented by the state could incorporate the following actions.

Proposal to incorporate the following into Oregon schools:

- Vending machines with healthy food options or removal of vending machines
- Elimination of soda sold or served on school grounds
- Limit of sweetened beverages sold or served on school grounds (50% fruit)
- Minimum requirement of 150 minutes of exercise/week for K-12 students
- Reward system for keeping TV viewing to 2 hours or less/day during school week with 1 hour of physical activity
- BMI screening similar to sight and hearing screening
- Include age appropriate nutrition education to all children K-5, and in middle school and high school health classes
- Tax credits to schools for purchasing locally grown produce
- Incorporate food market to sell fresh produce – students can earn “money”
- Nutrition content standard for food supplied at K-12 schools
- Green house emissions goals – encourage children to walk/bike to school
- Safe routes to school
- Involve families in an Eat Smart, Move More program

Implementation of physical activity throughout Oregon’s schools is the best choice for overall effectiveness and cost. An emphasis on different lifelong activities with less emphasis on competitive playing ability would foster an environment allowing children to explore various activities, ultimately encouraging them to continue activity of some sort long after they are out of school. By just increasing children’s activity levels by 30 minutes a day, the benefits would be evident after just a few months, and potentially become a lifelong habit. Utilizing resources such as schools, Boys & Girls Clubs and day care centers to incorporate more activity into children’s daily lives will help to combat the rise of obesity among children.

In addition, the County Health Departments in conjunction with the local schools could help implement and maintain the Eat Smart, Move More program, utilizing the school venue as a

means of educating families as a whole, while supporting the information children are receiving in school. In addition, supporting the FarmToSchool Program is another avenue of helping educate and incorporate change into children's lives that could potentially affect family's food choices.

Conclusion

While the task of changing lifestyle habits such as eating and physical activity seems like an insurmountable challenge, it is a challenge to face if we want to turn the trend of obesity. By utilizing the knowledge regarding weight management and effective ways to change behavior gathered over the last two decades, we have the means to start making changes in the area of obesity. The changes may initially be environmental changes such as placing healthy food choices in schools while eliminating less healthy foods such as sodas and sweets. Additionally, the strategic placement of markets that offer a greater selection of affordable fresh produce or creating a mobile "Farmer's Market" truck, which visits different areas of the community throughout the week, will improve access to healthy foods. Utilizing activity centers such as Boy's and Girl's Clubs, daycare centers and schools to help increase children's physical activity is just one avenue of utilizing existing infrastructure while incorporating change into children's lives. Utilizing programs within schools to educate and enhance the food choices of children can influence local families as well. National programs such as "FarmToSchool" and "Eat Smart, Move More" are programs that need expanding in Oregon. Local programs such as the Robert Wood Johnson Foundation grant given to Benton County to improve access to healthy food within all areas of the community are ways to help improve overall health of Benton County residents. All of these programs will benefit children's health, improving their quality of life and life expectancy while preventing obesity and chronic health conditions that result in long-term medical costs for all.

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Appendix A

CDC's Recommended Strategies for Obesity Prevention

Communities should do the following:

1. Increase availability of healthier food and beverage choices in public service venues
2. Improve availability of affordable healthier food and beverage choices in public service venues
3. Improve geographic availability of supermarkets in underserved areas
4. Provide incentives to food retailers to locate in and/or offer healthier food and beverage choices in underserved areas
5. Improve availability of mechanisms for purchasing foods from farms
6. Provide incentives for the production, distribution, and procurement of foods from local farms
7. Restrict availability of less healthy foods and beverages in public service venues
8. Institute smaller portion size options in public service venues
9. Limit advertisements of less healthy foods and beverages
10. Discourage consumption of sugar-sweetened beverages
11. Increase support for breastfeeding
12. Require physical education in schools
13. Increase the amount of physical activity in physical education programs in schools
14. Increase opportunities for extracurricular physical activity
15. Reduce screen time in public service venues
16. Improve access to outdoor recreational facilities
17. Enhance infrastructure supporting bicycling
18. Enhance infrastructure supporting walking
19. Support locating schools within easy walking distance of residential areas
20. Improve access to public transportation
21. Zone for mixed-use development
22. Enhance personal safety in areas where persons are or could be physically active
23. Enhance traffic safety in areas where persons are or could be physically active
24. Participate in community coalitions or partnerships to address obesity

(Implementation and Measurement Guide p 4)