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Preventing Childhood Obesity

Nigel Paneth, Michigan State University

Health care costs for obesity in the United States are nearly \$120 billion annually, or about 7% of total health care costs. ***One half of all obesity health care costs are underwritten by Medicaid and Medicare. This reflects what is being called the obesity epidemic. Except for post-famine periods, the United States has probably experienced, in the past two decades, the largest across the board weight gain in human history!***

Any discussion of controlling Medicaid costs in Michigan must consider this epidemic of obesity and ways of dealing with it, inasmuch as Michigan has a higher than average proportion of obese and overweight adults and children.

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The Increase in Obesity and Overweight in Adults and Children

- Over a period of 30 years, the prevalence of **obesity among adults** in the United States has increased substantially. Obesity in adults is defined as a body mass index of more than 30, which corresponds to being about 30 pounds over ideal weight for the average woman and about 40 pounds over ideal weight for a man.
- In 1985 a random sampling of adults who were asked their heights and weights found no states with as many as 15% of respondents obese; in 2/3 of states studied less than 10% of the population were obese. In 2002, just 17 years later, no states remained in which less than 15% of the population was obese. In most states more than 20% of the population is obese, and in 3 states more than 25% of people are obese.
- Similar increases in prevalence of overweight have occurred among **children and adolescents**. Overweight for children and for adolescents is considered to be more than 95 percentile body mass index for age.
- The percent of overweight children age 2-5 doubled from 5 to 10% in the 26 years from 1971-74 to 1999-2000.
- The percent of overweight children age 6-11 increased almost 4 times, from 4 to 15%, in the same time period
- The percent of overweight adolescents more than doubled from 5 to 11%, in the same time period.
- The percent of obese and overweight persons in Michigan has been trending upward since 1987: 45% in 1987 71% in 2000.

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What's Wrong with Obesity?

Obesity is associated with substantial increases in risks for chronic diseases, chronic disability, higher medical expenditures as previously noted, decreased productivity, and death.

- Increase in risks for chronic diseases:
 - 10 times increase in diabetes
 - 3-10 times increase in osteoarthritis
 - 2-3 times increase in cardiovascular disease
 - 50% increase in cancer deaths
 - Health care costs: Obesity health care costs account for about 1% of the gross domestic product.
 - Diminished productivity: Persons who are obese experience
 - 50-90% increase in sick leave
 - 1.5 -2.2 times increase in disability

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What Causes Obesity?

An individual's weight is nothing more than the balance between calories ingested and absorbed, and calories expended. **Obesity is caused by an excess of "calories in" over "calories out."**

Do We Know How to Prevent Obesity?

Interventions can be at the community level (ecological interventions) or at the individual level.

Individual level interventions

At the individual level, through the health care system, we can promote awareness of the benefits, and adoption of, good diet and exercise. However, there is limited high quality data on the effectiveness of obesity prevention programs and no generalizable conclusions can be drawn. There is a lack of good quality evidence on the effectiveness of interventions on which to base national strategies or to inform clinical practice.

- "Evidence is insufficient to recommend for or against routine screening for overweight in children and adolescents as a means to prevent adverse health outcomes."¹

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Community Level Interventions

Over the history of preventive efforts in other arenas, community level interventions, such as water chlorination, have been found to be more efficient than interventions directed at individuals. **Community level interventions can be initiated by legislative action** that changes policy or provides funding.

Evaluation

We must take a critical look at programs to prevent obesity and evaluate their effectiveness. We cannot take effectiveness for granted.

A wide variety of community programs combining diet and exercise are now being studied – the GEMS program targeting African-American girls ages 8-10 in five cities; The Hip-Hop program for toddlers in head start programs; the Go Girls program for adolescents in Atlanta. However, we do not yet know how effective these programs are.

What community level policies can we adopt that might decrease the energy intake of children (“calories in”)?

- Change school lunch contents
- Change contents of vending machines in schools

What community level policies can we adopt that increase the expenditure of energy by adults and children (“calories out”)?

- We can modify municipal and state policies and planning around the built environment to encourage walking, running, biking, outdoor activity
- When roads and streets are built or repaired, include designated bike lanes whenever possible
- Require new residential areas to have sidewalks
- Convert abandoned railroad beds to walking/biking trails
- Provide safe approaches for pedestrians and cyclists at shopping malls
- Reduce urban sprawl; promote neighborhoods with schools and other facilities within walking distance
- We can encourage children to walk or bike to school
- We can go back to requiring physical education in the schools

We can provide community-wide education on the basis of its “effectiveness in increasing physical activity and improving physical fitness among adults and children.”² Encouraging exercise may be easier to achieve than reducing caloric intake.

What Should Legislators and Policymakers Know?

1. Recognize that we are in the midst of an epidemic that is still growing
2. Recognize that we do not yet know exactly what we should do to prevent obesity – there is no magic bullet
3. Recognize that some determinants of energy balance can be influenced by legislators and policy makers

What should Legislators and Policymakers Do?

1. Encourage a variety of community approaches that simultaneously address calories in and calories out. Encouraging exercise may be easier than changing diet.
2. Evaluate the interventions carefully, so we sort out what works from what doesn't.