

# Wisconsin kids, obesity, and health risk: How's their report card?

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Wisconsin children are not immune from the epidemic of obesity. Childhood obesity continues to increase in the United States at epidemic proportions. A recent report from the National Health and Nutrition Examination Survey (NHANES) reported that the prevalence of overweight in children and adolescents in the US population increased significantly in the 6-year period of 1999-2004, from 13.0% to 17.1%. The news was worse for male children and adolescents, and those children who were non-white, with rates of overweight greater than 18% in those population subgroups. More than a third of all population sub-groups were at-risk of overweight or were overweight.<sup>1</sup>

In this issue of the *Wisconsin Medical Journal*, Hughes, et al, from Wausau, Wis, report on the SCHOOL project (p 32), supported by grants from local sources (the CaRE Foundation Inc., and Aspirus Wausau Hospital in Wausau) and the Centers for Disease Control and Prevention. This important project

not only provides rural Wisconsin with important information about the health status of children, but is important nationally. This study extends our knowledge of the risk factors present in our children and the potential implications on their future health.<sup>2</sup> Children in Wisconsin appear to be at significant risk for obesity, hypertension, diabetes, cardiovascular disease, and other diseases associated with overweight and obesity.

A significant proportion of the school children studied in Wausau have risk factors for cardiovascular disease and other diseases. Nearly 40% of the children have 1 lipid abnormality, 29% had high blood pressure, 25% had insulin resistance, 16% are overweight, and 11% smoked cigarettes (26% smoked in 11th grade). By 11th grade, almost 40% of the children had 2 risk factors for cardiovascular disease and nearly a quarter had 3 or more risk factors.<sup>2</sup> The levels chosen for this study as abnormal are quite conservative, usually greater than the 85th percentile, suggesting that the risks described are actually higher than normal ranges suggested for optimal health. The findings in this study support those of the NHANES population study and demonstrate that we in Wisconsin have serious population health issues to consider in our children. While this study looks at a community in the

northern part of the state, studies suggest that the risk factor burden will be even greater in urban areas like Milwaukee.<sup>1</sup> Prior studies found that 11% of Wisconsin children were over the 95th percentile for weight and 15% were between the 85th and 94th percentile in 2003, with higher rates in children of color.

Overweight in children is associated with more than social problems and risk of future health problems. It is also linked to increases in childhood diseases. The rates of obesity-associated hospital discharges tripled between 1979 and 1999 in children 6-17 years of age.<sup>3</sup> Type 2 diabetes now accounts for 8%-45% of new cases of diabetes in children, and the complications of diabetes are known to accumulate with a longer history of the disease. There are significant complications related to self-esteem, body image, and economic mobility, in addition to the health complications.<sup>4</sup> There are significant immediate effects in the obese child, including orthopedic, neurological, metabolic, pulmonary, gastroenterological, and endocrine morbidity, which can have serious medical consequences in the child.<sup>4</sup>

The answers to address the problem of childhood obesity are complex. Many factors are involved including genetic, environmental, and social factors. Children of high birth weight are at increased risk of

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overweight, and obesity has been estimated to have genetic influences in at least 40% of affected individuals.<sup>3</sup> Ethnicity is related to obesity risk, and genetics, socioeconomic factors, cultural factors, and more influence development of obesity in various populations. Obesity appears to track from childhood and adolescence into adulthood.<sup>5</sup> The number of hours children and adolescents spend watching television, or using other forms of media, has been directly linked to obesity rates. Over consumption of calories for energy expended, particularly of low-nutrient value foods such as sugar-sweetened drinks, is also linked to overweight.<sup>6</sup> While factors linking obesity may be complex, the recent increase in obesity may be more closely linked to increases in calorie intake. For example, an increase in just 120 calories per day (the equivalent of 1 soda drink) could produce a weight gain of as much as 50 kg in 10 years.<sup>7</sup>

Optimizing the health of our children is a population goal. Families must take the lead, encouraging optimal nutrition, reducing television and video time, and increasing physical activity—for the whole family. Children depend on others for support for eating and exercise, and for education and setting an example. Children spend much of their day in schools, so schools are an important part of the solution. The decline in physical education is important to address. Most children will not participate on sports teams after 8th grade, and must be taught and encouraged to do enjoyable, lifetime activities. All children need to be encouraged to participate in physical activity. We must offer high-quality meals for our children. Many schools, such as those in Appleton and Madison, have taken the lead in eliminating low-nutrient value snacks from

their schools, in both school menus and vending machines.

We also need to enhance our communities to encourage walking and biking and outdoor activities. Responsible marketing to children and supporting healthy foods in our workplace, our schools, and our homes is essential. Insurance companies must cover effective health education and other obesity treatments. We must address this in our visits to patients who are overweight to prevent obesity, and find ways to effectively treat obesity. We all need to take part in this—media, business, health care professionals, schools, families, and kids—working together to make Wisconsin the healthiest state.

Wisconsin has a plan, the Wisconsin Nutrition and Physical Activity State Plan, available through the Division of Public Health (<http://dhfs.wisconsin.gov/health/physicalactivity/StatePlan/StatePlanBM.pdf>) that outlines what we all can do to improve our health, decrease obesity, and decrease risk factors for chronic disease. It is a sound, comprehensive, and practical plan that was put together by health care professionals, educators, business professionals, politicians, and many other citizens of our state to address this critical epidemic that can have serious health and economic consequences for all of us. The plan addresses

health behaviors at personal and population levels, and is realistic and achievable, but we must act on it. The time to act is now, and the data from the study in Wausau is a warning that our kids are telling us that their future is at risk.

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