

Health Action: Planning for a Healthy Sonoma County

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ISSUE BRIEF: HEALTHY EATING AND PHYSICAL ACTIVITY

Overview

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The dramatic increase in the prevalence of overweight and obesity in Sonoma County is one of the most significant risks to health and well-being. Caused by unhealthy eating and sedentary lifestyles, overweight and obesity is a national public health problem that is associated with increased risk of death, increased risk for developing chronic disease and other health conditions, negative impact on social and emotional development, increased risk for injuries, increased school and work days missed, and increased medical costs. If this trend continues, this generation of children and youth is expected to be the first to have a shorter life expectancy than their parents. While much research has focused on education and behavior change, these approaches alone have had limited success. It is now recognized that effectively fighting the obesity epidemic will require changing the environments in which people live, work, and play. It will require a comprehensive approach that mobilizes neighborhoods and communities; changes community, organizational and school policies and practices; educates service providers; and strengthens individual knowledge and skills.

Key Findings

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**Good nutrition is essential for growth, development, health and well-being for all ages.**

- The benefits of a healthy diet are well documented. Eating a healthy diet helps control weight, reduces risk of obesity, heart disease, and other chronic conditions, and is associated with a lower risk of mortality in all age groups.<sup>1</sup> Dietary factors are associated with 4 of the 10 leading causes of death: coronary heart disease, some types of cancer, stroke and type-2 diabetes.<sup>2</sup>
- For children, good nutrition is essential for healthy growth and development and in preventing conditions such as iron deficiency anemia. Many studies also show a direct link between nutritional intake and academic performance. For example, increased participation in breakfast programs is associated with increased academic test scores, improved daily attendance, reduced tardiness, and better class participation.<sup>3</sup>
- For adults, dietary factors are also associated with osteoporosis, which affects more than 25 million persons in the United States and is the major underlying cause of bone fractures in postmenopausal women and elderly persons.<sup>4</sup>

**Daily physical activity is essential for health, fitness and quality of life for all ages.**

- Research has demonstrated that virtually all individuals will benefit from regular physical activity. On average, physically active people outlive those who are inactive. Regular physical activity also helps to maintain the functional independence of older adults and enhances the quality of life for people of all ages.<sup>5</sup>
- For children, research has shown a significant relationship between physical fitness and academic achievement. Physical activity in adolescents has also consistently been related to higher levels of self-esteem and lower levels of anxiety and stress.<sup>6</sup>
- For adults, regular physical activity can help prevent or control many of the health problems (e.g. high blood pressure; heart diseases; depression; obesity, and diabetes) that often reduce the quality and length of life.<sup>7</sup> Strength training is of particular importance to older adults, as it can provide relief from arthritis pain; improve balance and reduce the risk of falling; strengthen bones; and reduce blood glucose levels.<sup>8</sup>

**Overweight and obesity are graphic markers of lack of healthy eating and physical activity and are increasing in Sonoma County.**

- Overweight (defined as having a body mass index (BMI) of 25 to 29.9) and obesity (defined as having a BMI of 30 or greater) results when a person eats more calories from food (energy) than he or she expends, for example, through physical activity.
- The number of Sonoma County adults (ages 18 years and older) who are obese increased 72% between 2001 and 2005, from 14.1% in 2001 to 24.2% in 2005 (Table 1).<sup>9</sup>
- The number of Sonoma County adults (ages 18 years and older) who are overweight or obese increased from 48.4% in 2001 to 56.5% in 2005.<sup>10</sup> This is up from a rate of 28% in 1997.<sup>11</sup>

Year	Overweight (BMI 25-29.9)	Obese (BMI >= 30)	Overweight or Obese
2001	34.3%	14.1%	48.4%
2003	34.8%	16.7%	51.5%
2005	32.3%	24.2%	56.5%

*Source: California Health Interview Survey, 2001 - 2005*

- 27% of 5<sup>th</sup> graders enrolled in Santa Rosa City schools during 2005-2006 were assessed to be obese, which is more than five times the Healthy People target of 5%. This proportion reflects a 17% increase from the 1999-2000 rate of 23%.<sup>12</sup>
- The number of Sonoma County children ages 5-20 who were assessed to be obese (BMI >= 30) increased from 21.8% in 2002 to 23.5% in 2006.<sup>13</sup>
- Obesity is a major risk factor for type-2 diabetes. In Sonoma County, 4.9% of the total population and 14% of the population aged 65 years and older reports having been diagnosed with diabetes. Increasing rates of obesity and aging of the population in Sonoma County are expected to create a substantial increase in the number of people with diabetes in Sonoma County.

**Rates of obesity vary by age, gender, ethnicity, income and other factors.**

- Rates of obesity are higher in younger age groups compared with those aged 65 and older (Table 2), indicating the growing trend that will be facing the county as this population ages. Obesity and overweight are also more prevalent among men than women (71.3% compared to 42.4% for women).
- Ethnic minorities and those not able to speak English well reported rates of overweight and obesity significantly higher than Whites and those who could speak English well or very well.
- The highest rates of obesity occur among population groups with the highest poverty rates. In 2005, over two-thirds (67.9%) of low-income (<100 FPL) adults ages 18 and older reported being overweight or obese compared to 54.1% of non-low-income adults (≥ 300 FPL).<sup>14</sup>

<b>Table 2: Percent of Adults (ages 18+) who reported being overweight and/or obese, by selected characteristics, Sonoma County</b>			
	<b>Overweight (BMI 25-29.9)</b>	<b>Obese (BMI &gt;= 30)</b>	<b>Overweight or Obese</b>
<b>Age**</b>			
18-64 years	32.6%	25.7%	58.3%
65+ years	30.8%	16.7%	47.5%
<b>Gender**</b>			
Male	43.6%	27.8%	71.3%
Female	21.6%	20.8%	42.4%
<b>Race/ethnicity ^</b>			
White, non-Hispanic	33.7%	18.4%	52.1%
Hispanic	32.8%	31.3%	64.0%
Asian/Pacific Islander	*	*	39.0%
African American	*	*	64.2%
American Indian/AK native	*	*	91.0%
Other/ 2 or more races	*	34.9%	67.5%
<b>Income level ^</b>			
< 100% FPL	38.1%	29.9%	67.9%
100-199% FPL	31.4%	21.6%	53.0%
200-299% FPL	24.7%	20.0%	44.7%
300+% FPL	35.3%	18.8%	54.1%
<b>Ability to speak English^</b>			
Very well or well	24.1%	17.8%	41.9%
Not well or not at all	39.4%	38.2%	77.6%
* Unstable due to small numbers			
** 2005 data			
^ 2-year pooled data, 2003 and 2005			
Source: California Health Interview Survey, 2001 - 2005			

- The proportion of 5<sup>th</sup> grade students who were overweight or obese in Santa Rosa City Schools during 2005-2006 was 36% for white, non-Hispanic children compared with 55% for Hispanic children.<sup>15</sup>

**Sonoma County residents are not consuming the recommended servings of fruits and vegetables.**

- In 2005, only 55.6% of Sonoma County residents reported eating 5 or more fruits and vegetables per day. The percentage was much lower for teens ages 12-17 years of age (31.3%).<sup>16</sup>
- Low income residents (< 100% of FPL) are less likely to report eating 5 or more fruits and vegetables per day (47%) than those with higher incomes (300+% of FPL) ( 59%).

**Poor nutrition can lead to iron deficiency anemia.**

- Iron deficiency anemia is most prevalent during the first two years of life when the infant brain is still developing. Long-term consequences of iron deficiency anemia include both cognitive and motor development abnormalities.<sup>17</sup>
- In 2005, low-income children in Sonoma County had significantly higher rates of anemia than comparable California children. Rates of iron deficiency anemia were 23.3% for children ages 1-2 and 13.7% for children ages 3-5 (compared with 14.6% and 10.2% for California, respectively). These rates are significantly higher than the Healthy People 2010 goals of 5% for ages 1-2 and 1% for ages 3-5.<sup>18</sup>

**Breastfeeding is associated with better nutrition and lower rates of overweight.**

- Research suggests that initiation and greater duration of breastfeeding results in reduced risk of pediatric overweight.<sup>19</sup>
- In California, more than 83% of women choose to breastfeed their infants in the hospitals, but only 40.5% are breastfed exclusively. The American Academy of Pediatrics recommends exclusive breastfeeding for the first six months. Exclusive breastfeeding offers the best protection against overweight.
- In Sonoma County, in-hospital breastfeeding rates in 2004 were 94% for any breastfeeding and 69.7% for exclusive breastfeeding.

**Sonoma County residents are not engaging in sufficient physical activity.**

- Only 72% of Sonoma County adolescents report engaging in vigorous physical activity at least 3 days per week compared with the Healthy People 2010 objective of 85%.<sup>20</sup>
- Each year students in 5<sup>th</sup>, 7<sup>th</sup>, and 9<sup>th</sup> grade are evaluated for six basic fitness areas. In 2005-2006, only 35% of Sonoma County 7<sup>th</sup> graders met the basic fitness standards.<sup>21</sup>
- Among Sonoma County adults, 17.1% reported no leisure time physical activity, 52.2% reported moderate physical activity and 30.7% reported vigorous physical activity.<sup>22</sup>

**The economic impact of unhealthy eating and sedentary lifestyles is significant.**

- In 2000 alone, the cost of medical care, workers' compensation, and lost productivity attributable to overweight, obesity, and physical inactivity in California adults was \$21.7 billion.<sup>23</sup>
- Obesity is a major risk factor for type-2 diabetes. Economic costs of diabetes in the U.S. were estimated to be \$174 billion in 2007, including \$116 billion in excess medical expenditures and \$58 billion in reduced national productivity. On a per capita level, people with diabetes have health care expenditures that are 2.3 times higher (\$11,744 vs. \$5,095) than expenditures for a similar population in the absence of diabetes.<sup>24</sup>
- In addition to the costs paid by insurers, employers, and the individuals and families with these chronic conditions, the burden is passed along to society in the form of higher insurance premiums and taxes, reduced earnings, and reduced standard of living.<sup>25</sup>

## Contributing Factors

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**Limited access to healthy, affordable foods, especially in low-income neighborhoods.**

Sonoma County has a ratio of 2.52 fast-food restaurants and convenience stores for each supermarkets or produce vendor (not including convenience stores associated with gas stations).<sup>26</sup> But this ratio is likely much higher for low-income neighborhoods, where residents must often rely on corner markets, which serve primarily as outlets for alcohol, cigarettes and convenience foods and offer few nutritious choices.

**Food insecurity is linked to overweight.** Food insecurity, which refers to the lack of access to nutritionally adequate and sufficient food, has been found to be a contributing factor to overweight.<sup>27</sup> A 2002 Redwood Empire Food Bank study of emergency food recipients found that the high cost of living in Sonoma County leaves many residents struggling to put food on the table.<sup>28</sup> As the conditions of poverty limit access to nutritious food, the health impacts are of particular concern for certain vulnerable populations, such as families with children and older adults. In 2005, there were an estimated 23,000 people in Sonoma County who reported being food insecure (i.e., not being able to afford enough food), with about 8,000 reporting very low food security (i.e., multiple indications of disrupted eating patterns and reduced food intake).<sup>29</sup>

**High prevalence and consumption of inexpensive, high-calorie processed and fast foods.**

Pre-packaged, processed foods, fast foods and soft drinks are readily accessible throughout the county, and tend to be high in fat, sugar, salt and calories. With inadequate funding, school systems have been challenged to provide fresh and healthy food, often relying on a la carte and vending programs that sell foods and beverages high in calories and low in nutrients.

**Extensive marketing of unhealthy food products to children and youth.** Children and youth today are bombarded with images and messages that promote unhealthy food. Scientific research shows that this advertising is effective in influencing children's preferences and purchase requests.

**Insufficient school physical education programming.** With decreased funding and increased pressure to improve test scores, many schools have reduced physical education, despite data showing that physical activity improves learning.<sup>30</sup>

**Neighborhood and communities with limited infrastructure and opportunities for physical activity and recreation.**

The places where we live, learn, work, and play often offer limited opportunities for routine physical activity, such as bike paths, parks, playgrounds, sidewalks, routes for walking or bicycling to school, and safe streets and neighborhoods.

**Neighborhood and safety concerns that prevent parents from allowing children to play outside.**

Research has shown that perceived lack of neighborhood safety is associated with physical inactivity.<sup>31</sup> Many people, particularly women, report that they do not walk or bike because they are concerned about their personal safety. Fear of crime has been shown to influence the decision to stay indoors for residents of urban neighborhoods where gang territories and neighborhood disorder are common.<sup>32</sup>

**Increased use of electronic media (TV, video games) at expense of outdoor play.**

A generation ago, most children played outdoors after school. Today, one of the biggest challenges to being more physically active for many Americans is the amount of sedentary time that children and families spend in front of screens. A recent study found that every day, on

average, 8 to 18 year olds spend nearly fours watching TV, videos, DVDs and prerecorded shows, over one hour on the computer, and about 50 minutes playing video games. <sup>33</sup>

**Community design and lifestyles that emphasizes car travel and discourages physical activity.** Features that support driving, such as wide roads and expressways, large parking lots and drive-through businesses, create environments that are dangerous and unpleasant for pedestrians. Widely dispersed, isolated destinations also discourage walking and bicycling.<sup>34</sup> A generation ago, approximately half of all school-age children walked or bike to school. Today, an estimated nine out of ten children are driven to school.<sup>35</sup> Locally, a study of 9 Santa Rosa elementary schools that were observationally monitored regarding Safe Routes to Schools in the spring of 2006 found that approximately 10% of students walk to school and 6% walk home from school.<sup>36</sup>

## Supporting Healthy Eating and Physical Activity in Sonoma County

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Researchers and health advocates have identified a number of ways that communities can take action to support healthy eating and physical activity.

### **Community**

- Assure that all people have access to healthy food and safe physical activity in their schools, neighborhoods and communities.
- Assure that all people have food security, regardless of income.
- Encourage school facilities and policies that promote healthy eating and physical activity.
- Assure that all children have a safe route to school for walking and biking, including safe streets, sidewalks, and street-crossings.
- Assure that all communities are walkable and bikeable, with ready access to parks and other safe and active recreational opportunities.
- Support safe, pedestrian-oriented transportation.
- Encourage breast-feeding through the first year of life.
- Provide good information about the benefits of healthy eating and physical activity and ways to practice both, including availability of community resources.
- Create incentives to support healthy behaviors in workplaces, communities, and households.
- Support land-use and transportation planning and development to ensure that public health issues are a guiding consideration in planning decisions.

### **Health Care Delivery System**

- Promote use of preventive health services (including screening for poor nutrition, body mass index (BMI), physical activity, and substance abuse), especially for those that are vulnerable to health disparities due to risk factors such as poverty, race or ethnicity.
- Expand health insurance coverage to reimburse medical providers for incorporating universal screening, nutrition education, and physical activity education into regular preventive health care visits.
- Provide patient education and skill-building regarding healthy lifestyle behaviors, especially for at-risk youth and families (online, group or individual).

## Major Gaps in Sonoma County

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### **Community**

- Insufficient community infrastructure and opportunities to support physical activity and to increase access to healthy, affordable foods, especially in neighborhoods that are more affected by disparities in obesity.
- Insufficient community design strategies that encourage safety, such as lighting, landscaping and security cameras, especially in neighborhoods or areas that are most affected by gang activity and other crimes.
- Insufficient transportation options to get to school, work, and services that reduce reliance on car travel and encourage increased physical activity (such as walking, biking, public transit).
- Underutilization of city/county planning tools (such as Community Health and Wellness Elements in the General Plan) that can lay the groundwork for creating healthier communities.
- Insufficient school physical education, nutrition education, and healthy school food options.
- Insufficient of school and employer wellness policies and initiatives that address nutrition, physical activity, and other healthy behaviors.
- Insufficient public awareness and skills regarding healthy lifestyle behaviors, especially for at-risk youth and families.

### **Health Care Delivery System**

- Insufficient preventive health services (including screening for poor nutrition, body mass index (BMI), physical activity, and substance abuse), especially for those that are vulnerable to health disparities due to risk factors such as poverty, race or ethnicity.
- Insufficient health insurance coverage to reimburse medical providers for incorporating universal screening and nutrition and physical activity education into regular preventive health care visits.

## Resources

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### U.S. Department of Health and Human Services

- *Healthy People 2010, Chapter 19: Nutrition and Overweight*  
<http://www.healthypeople.gov/Document/HTML/Volume2/19Nutrition.htm>
- *Healthy People 2010, Chapter 22: Physical Activity and Fitness*  
<http://www.healthypeople.gov/Document/HTML/Volume2/22Physical.htm>

### Centers for Disease Control and Prevention

- Overweight and Obesity webpage  
<http://www.cdc.gov/nccdphp/dnpa/obesity/>
- *Physical Activity and Good Nutrition: Essential Elements to Prevent Chronic Diseases and Obesity 2007*  
<http://www.cdc.gov/nccdphp/publications/aag/dnpa.htm>

### Robert Wood Johnson Foundation

- *Improving Access to Healthy Foods: A Guide for Policy-makers* (Fall 2007)
- *Increasing Active Living: A Guide for Policy-makers* (Fall 2007)
- *Leadership for Healthy Communities: Advancing Policies to Support Healthy Eating and Active Living*

## Local Contacts

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- Barbara Graves, Director, Sonoma County Department of Health Services (DHS), Prevention and Planning Division
- Elisabeth Chicoine, Sonoma County DHS, Director of Nursing, Public Health Division, and Community Activity and Nutrition Coalition
- Lynn Walton, Program Manager, Chronic Disease Prevention, Sonoma County DHS, Prevention and Planning Division
- Rebecca Munger, Perinatal Services Coordinator, Sonoma County DHS, Public Health Division

## Endnotes

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- <sup>1</sup> Robert Wood Johnson Foundation, *Improving Access to Healthy Foods: A Guide for Policy-makers*, Fall 2007.
- <sup>2</sup> U.S. Department of Health and Human Services (DHHS), *Healthy People 2010, Chapter 19: Nutrition and Overweight*, p. 19-3.
- <sup>3</sup> Action for Healthy Kids, *The Learning Connection: The Value of Improving Nutrition and Physical Activity in our Schools*, [www.ActionforHealthyKids.org](http://www.ActionforHealthyKids.org)
- <sup>4</sup> U.S. Department of Health and Human Services (DHHS), *Healthy People 2010, Chapter 19: Nutrition and Overweight*, p. 19-3.
- <sup>5</sup> U.S. Department of Health and Human Services (DHHS), *Healthy People 2010, Chapter 22: Physical Activity and Fitness*, p. 22-3.
- <sup>6</sup> Action for Healthy Kids, *The Learning Connection: The Value of Improving Nutrition and Physical Activity in our Schools*, [www.ActionforHealthyKids.org](http://www.ActionforHealthyKids.org)
- <sup>7</sup> U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, *The State of Aging and Health in America 2007*.
- <sup>8</sup> U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, *Growing Stronger: Why Strength Training for Older Adults?*
- <sup>9</sup> California Health Interview Survey, 2001 and 2005.
- <sup>10</sup> California Health Interview Survey, 2001 and 2005.
- <sup>11</sup> Sonoma County Department of Health Services, *Health Profile*, 2000.
- <sup>12</sup> Sonoma County Community Activity and Nutrition Coalition, Fitness Day Data, 2007.
- <sup>13</sup> Pediatric Nutrition Surveillance Data, CDC, 2002-2006. [www.dhcs.ca.gov/services/chdp/Pages/PedNSS.aspx](http://www.dhcs.ca.gov/services/chdp/Pages/PedNSS.aspx)
- <sup>14</sup> California Health Interview Survey, 2005.
- <sup>15</sup> Sonoma County Community Activity and Nutrition Coalition, Fitness Day Data, 2007.
- <sup>16</sup> California Health Interview Survey, 2005.
- <sup>17</sup> Hurtado EK, Claussen AH, and Scott KG, "Early childhood anemia and mild or moderate mental retardation," *American Journal of Clinical Nutrition*, 1999, Vol. 69(1), pp. 115-119.
- <sup>18</sup> Pediatric Nutrition Surveillance System, 2005. Data are for low-income children.
- <sup>19</sup> California WIC Association, *Overcoming Barriers to Breastfeeding in Low-Income Women*, Policy Brief #2, March 2006.
- <sup>20</sup> California Health Interview Survey, 2005.
- <sup>21</sup> *California Physical Fitness Report*, Sonoma County and California, 2005-2006. (Babs)
- <sup>22</sup> California Health Interview Survey, 2005.
- <sup>23</sup> Chenoweth D, *The economic costs of physical inactivity, obesity, and overweight in California adults: health care, workers' compensation, and lost productivity*, California Department of Health Services, April 2005.
- <sup>24</sup> American Diabetes Association, "Economic Costs of Diabetes in the U.S. in 2007," *Diabetes Care*, Vol. 31, No. 3, March 2008, pp. 1-20.
- <sup>25</sup> American Diabetes Association, "Economic Costs of Diabetes in the U.S. in 2007," *Diabetes Care*, Vol. 31, No. 3, March 2008, pp. 1-20.
- <sup>26</sup> California Center for Public Health Advocacy, *Searching for Healthy Food: The Food Landscape in California Cities and Counties*, Policy Brief No. 5, January 2007.
- <sup>27</sup> Casey PH, Simpson PM, Gossett JM, Bogle ML, Champagne CM, Connell C, Harsha D, McCabe-Sellers B, Robbins JM, Stuff JE, Weber J, The Association of Child and Household Insecurity with Childhood Overweight Status, *Pediatrics*, Vol. 118, No. 5, November 2006, pp. 1406-1413.
- <sup>28</sup> Redwood Empire Food Bank. Understanding the economics of hunger in Sonoma County: A study of emergency food recipients, March 2003.
- <sup>29</sup> California Health Interview Survey, 2005.
- <sup>30</sup> Action for Healthy Kids, *The Learning Connection: The Value of Improving Nutrition and Physical Activity in our Schools*, [www.ActionforHealthyKids.org](http://www.ActionforHealthyKids.org)
- <sup>31</sup> Centers for Disease Control and Prevention, "Neighborhood Safety and the Prevalence of Physical Inactivity – Selected States," 1996, *MMWR Weekly*, February 26, 1999, 48(07), pp. 143-146.
- <sup>32</sup> Robert Wood Johnson Foundation, *Increasing Active Living: A Guide for Policy-makers*, Fall 2007
- <sup>33</sup> Henry J. Kaiser Foundation, *Generation M: Media in the Lives of 8-18 Year Olds*, March 2005.
- <sup>34</sup> Robert Wood Johnson Foundation, *Increasing Active Living: A Guide for Policy-makers*, Fall 2007.
- <sup>35</sup> Robert Wood Johnson Foundation, *Increasing Active Living: A Guide for Policy-makers*, Fall 2007.
- <sup>36</sup> Sonoma County Asthma Coalition, *Safe Routes for Schools Survey: Summary of Findings*, Spring 2006.