

Physical Activity's Connection to Cancer: Policy & System Opportunities to Reduce Cancer in Wisconsin

Emily A. Reynolds, MPA

Wisconsin Comprehensive Cancer Control Program

BACKGROUND

One out of three cancer deaths are attributed to physical inactivity, poor nutrition and excess weight.¹ Research links regular physical activity to reduced risk of several cancers including breast, colorectal, endometrial, prostate and potentially others.^{2,3} Physical activity also helps decrease excess weight which is associated with an increased risk for colorectal, breast, uterine, esophageal, kidney, pancreatic cancers, and possibly others.² Second to not smoking, regular physical activity and healthy eating are the most important preventative factors in reducing cancer risk.²

National guidelines from the Centers for Disease Control and Prevention (CDC) recommend 2 hours and 30 minutes per week for adults (150 minutes) of moderate-intensity activity (i.e. brisk walking) and 60 minutes per day for children under the age of 18 to maintain good health.⁴ Research suggests that individuals who do not engage in at least 15-30 minutes of moderate physical activity daily could increase their risk of cancer, heart disease, stroke and diabetes by 20-30% and decrease their lifespan by 3-5 years.⁵ Additionally, increased levels of physical activity to 5 hours (300 minutes) per week for adults can provide additional health benefits,⁴ and some emerging research suggests it may provide additional benefits for lowering a person's risk for certain cancers.⁶ This CCC Issue Brief will focus on reducing the risk of cancer by increasing physical activity.

HOW PHYSICALLY ACTIVE ARE WISCONSINITES?

According to the Behavioral Risk Factor Surveillance System, just over half of Wisconsin adults are meeting the recommended 150

minutes per week.⁷ One in four report no leisure-time physical activity at all.⁷ These rates are similar to national averages (see **Table 1** on Page 2).

Wisconsin youth are also not as physically active as they could be. Only 1 in 4 Wisconsin adolescents are active for 60 minutes each day; and only 2 out of 5 are participating in daily physical education in school.

OBESITY IN WISCONSIN

While this brief focuses mainly on physical activity, inadequate physical activity combined with excessive caloric intake leads to obesity, and excess weight and obesity are attributed to many types of cancer. Additionally, research has also found "an association between obesity and worse prognosis and outcomes among some cancer patients."⁸ In Wisconsin almost 2 in 3 people are overweight or obese.⁹ Roughly 1 in 3 Wisconsin third graders are overweight or obese,¹⁰ and 1 out of 4 high school youth report being obese or overweight.¹¹

Key Points

- Regular physical activity can reduce the risk of breast, colorectal, endometrial, and prostate cancers.
- Only half of Wisconsin residents are active for the recommended 2 hours and 30 minutes per week.
- Opportunities exist in workplaces, childcare settings, schools, and communities to encourage individuals to be more physically active.
- Enhanced physical education in schools and bicycle and pedestrian inclusion in transportation projects are ways Wisconsin could increase physical activity and reduce the risk of cancer.

INCREASING PHYSICAL ACTIVITY IN WISCONSIN

Regular physical activity can help adults and youth maintain a healthy weight and when combined with healthy food choices it can also help them lose weight.¹² While activity levels are partly driven by individual choices, the social, physical and economic environments have a major impact on those choices.¹³ There are potential opportunities in workplaces, childcare settings, schools, and communities to encourage individuals to be more physically active as a part of their daily routine.

TABLE 1. 2013 Wisconsin & National Physical Activity Rates

	Met 150 minute aerobic activity guideline*	No leisure-time physical activity*	Adolescents who are physically active for 60 minutes or more daily**	Adolescents who participate in daily physical education**
Wisconsin	53.4%	23.8%	24%	39.4%
National	50.2%	26.3%	27.1%	29.4%

*Behavioral Risk Factor Surveillance Survey

**Youth Risk Behavioral Surveillance Survey

Source: CDC. (2015). "Nutrition, Physical Activity and Obesity: Data, Trends and Maps" Accessed at http://nccd.cdc.gov/NPAO_DTM/LocationSummary.aspx?statecode=94

Community Environment and Policy Changes

There are many resources that have compiled lists of evidenced-based strategies to increase physical activity, including County Health Rankings and Roadmaps, What Works for Health, and The Community Guide. While all of these resources overlap somewhat and have varying levels of specifics on strategies, The Community Guide recommends 4 overall evidence-based categories to improve physical activity.¹⁴ This guide is a compilation of evidence-based strategies recommended by The Community Preventive Services Task Force which was established by the US Department of Health and Human Services.¹⁴ The Guide's 4 evidence-based recommended categories are described below:

- **Community-Scale Urban Design and Land Use Policies & Street-Scale Urban Design and Land Use Policies**

Community-Scale Urban Design and Street-Scale Urban Design are similar and pertain to policies that change the physical environment to encourage physical activity. This can involve locating residential areas closer to commercial and business areas, connecting sidewalks and streets, and aesthetic and safety considerations. It also can include improved lighting, improved street crossing, traffic calming, and street landscaping. These policies can be done

through zoning regulations, codes, and other governmental policies. In reviewing 12 studies that looked at community-scale urban design The Community Guide found an improvement in the numbers of walkers and bikers. In the 6 studies reviewed that looked at street-scale urban design, they also found an improvement in the numbers of walkers and bikers.¹⁴

A popular policy that 26 states across the country have adopted in this area is called Complete Streets. These policies "help to ensure that streets are safe for all users including pedestrians and bicyclists."¹² Wisconsin passed the Pedestrian and Bicycle Accommodations law, also known as the Complete Streets law, in 2009 that directed the "Department of Transportation to ensure that bikeways and pedestrian ways are established in all new highway construction and reconstruction projects funded in whole or in part from state funds or federal funds."¹⁵ However, the 2015-2017 Wisconsin state budget repealed that language in the statutes and modified it to the federal language which requires "due consideration" for cyclists and pedestrians to state transportation projects.¹⁶ The change also included a provision that would require local governments to authorize any bicycle or pedestrian installations before the state Department of Transportation includes them in projects.¹⁶

Nonetheless, many local communities in Wisconsin are adopting policies to encourage physical activity. For example, La Crosse County has a Complete Streets policy that works to incorporate accommodations of pedestrians and bicyclists into roadway planning.¹⁷ The City of Oshkosh has a Pedestrian and Bicycle Circulation Plan that details strategies for improving pedestrian and bicycle transportation through the community.¹⁸ The Wisconsin Active Communities Alliance has collected examples and "how to's" for local communities to implement strategies to encourage more activity. For more information visit, <http://www.activecommunitieswi.org/>.

- **Creation of – or Enhanced Access to – Places for Physical Activity Combined with Informational Outreach Activities**

This strategy involves workplaces and communities creating opportunities for physical activity, such as creating walking trails, building exercise facilities, or ensuring access to existing facilities. The Community Guide found in reviewing 10 studies that this strategy is effective in getting people to exercise more.¹⁴ The programs that the studies reviewed also included activities such as health behavior education, risk factor screening, referrals to physicians, and support or buddy systems.

According to County Health Rankings, 83% of residents in Wisconsin do have adequate access to locations for physical activity. This access would be a park or recreational facilities, such as gyms, community centers, YMCAs, pools, or dance studios.¹⁹ The Wisconsin Open Gym Act was passed in 2011 and provides "immunity from

liability to school boards for any death or injury on school grounds during recreational activity that was permitted by a joint use agreement” making it easier for schools to allow community use of their grounds and increase access for physical activity at the community level.²⁰

- **Point-of-Decision Prompts to Encourage Use of Stairs**

Prompts, such as signs, can encourage people to use the stairs for health benefits. In the 11 studies reviewed by The Community Guide, more people used the stairs when point-of-decision prompts were posted. This strategy was effective with various groups of people, including men and women, young and old, obese and non-obese people and among several racial/ethnic subgroups, and in many different settings, including shopping malls, banks, office buildings, and libraries.¹⁴

School-Based Environmental and Policy Changes

Research shows that levels of physical activity in childhood and adolescence are the best predictors of adult physical activity levels.¹³ Thus, establishing healthy behaviors early in life can lead to life-long healthy habits.²¹ Schools are important settings to focus on because children spend up to half of their waking hours in schools.²² The CDC’s 2014 State Indicator Report on Physical Activity shares state-level information on environmental and policy supports for physical activity and physical activity behaviors. The report provides several policy and environment strategies to increase physical activity in schools. These strategies provide policy guidance to states on: the amount of time spent in moderate to vigorous-intensity physical activity in physical education class, recess, and walking or biking to/from school.¹²

Many states across the US have passed many of the policies described in the CDC’s State Indicator Report. Twenty-eight states have policy guidance on physical activity in physical education class. For example, Florida and Oregon now require 150 minutes of physical education per week for K-5.²³

Thirty states have policy guidance on recess. Virginia requires elementary schools to provide students with daily recess.²³ Nevada, Montana, Maine, and Michigan all have policies specifying that recess be provided before lunch which has been shown to increase physical activity levels among students during recess, improve student behavior throughout the day, increase consumption of more nutritious foods, and reduce food waste.²⁴

Thirty-four states have policy guidance on walking or biking to and from school.¹² Several states, including Florida, Illinois, and Texas, have established “Safe Routes to School” programs that fund projects that would encourage walking or biking to school.²³ Funding could be used for projects such as installation of new crosswalks and bike lanes, construction of multiuse trails, construction and replacement of sidewalks, implementation of traffic calming programs in neighborhoods around schools and construction of bike lanes.²³

Other states have taken a broader approach requiring a certain amount of physical activity minutes during the school day. Texas requires physical activity for at least 30 minutes daily that can be comprised of either physical education or recess.²³ Missouri requires elementary students to participate in moderate physical activity for an average of 150 minutes per five day school week or an average of 30 minutes per school day.²³ North Carolina

Wisconsin Get Youth Moving Bill

The American Cancer Society, American Heart Association, Wisconsin PTA Association, and the YMCAs are supporting the Get Youth Moving Bill (GYM) that would increase physical education in Wisconsin elementary schools to 30 minutes a day or 150 minutes a week. Currently, schools are required to offer physical education three times a week with no time requirement specified. This bill is being proposed by Representative David Steffen.²⁹

requires schools to provide a minimum of 30 minutes daily of physical activity to all K-8 students and can be completed via physical education class, physical activities, recess, dance, classroom energizers or other classroom physical activity programs.²³

Wisconsin currently does not have statewide policies to provide guidance to schools on any of these three strategies.¹⁴ The Wisconsin statewide standard for physical education requires that physical education be offered three times weekly for kindergarten through 6th grade, recommending it “should reflect a typical class period.”²⁵ Classroom teachers are also allowed to teach physical education class under the direction of a certified physical education teacher.²⁵ Additionally, the Wisconsin administrative code only addresses recess by stating “no more than 30 minutes of the school day may be counted for recess,” but does not provide specific guidance on how often recess should be provided to students or when it should be provided.²⁵ However, locally, many Wisconsin schools and school districts are working to institute policies to increase physical activity in for school aged children. Ten schools in Wisconsin received the

2015 Let's Move Active School Award which rewards schools for making policy and program changes to increase physical activity during the school day.²⁶

POLICY IMPLICATIONS

Regular physical activity is an important component to reducing the risk of cancer in Wisconsin. The Wisconsin Comprehensive Cancer Control Plan 2015-2020, which is a common framework for action in cancer prevention and control, includes a strategy on creating environments that support physical activity under the increasing healthy, active lifestyles priority.²⁷ With only half the population in Wisconsin meeting the recommended 2 hours and 30 minutes per week (150 minutes) of physical activity,¹² more could be done to create a social and built environment that encourages physical activity among adults and children. Recently, the US Surgeon General released a Call to Action to promote Walking and Walkable Communities to increase physical activity.²⁸ In this call to action, goal number 1 is to make walking a national priority, with additional goals of creating communities that promote and support walking. This Call to Action brings further attention to this important issue.

Currently, there is a patchwork of effective local policies in Wisconsin school districts, cities, and counties that are creating environments to increase physical activity. Statewide policies that enhance physical education,

require a certain number of physical activity minutes per day, and/or provide guidance on recess could be effective in increasing physical activity in schools. While increasing adult physical activity is more challenging, pedestrians and bicycle inclusion into transportation projects is one way to ensure there are broader opportunities for adults to be physically active in communities across the state.

REFERENCES

- American Cancer Society. (2013). "Wisconsin Cancer Facts & Figures 2013-2014." Retrieved on September 11, 2015 from https://wicancer.org/wp-content/uploads/2015/08/WI-FactsFigures-2013_FINAL.pdf
- American Cancer Society. (2015). "Physical Activity and Cancer." Retrieved on September 11, 2015 from <http://www.cancer.org/acs/groups/content/@nho/documents/document/physicalactivityandcancer.pdf>
- National Cancer Institute. (2009). "Physical Activity and Cancer." Accessed at <http://www.cancer.gov/cancertopics/causes-prevention/risk/weight-activity/physical-activity-fact-sheet>
- Centers for Disease Control and Prevention. (2015). "Physical Activity Basics." Retrieved on September 11, 2015 from <http://www.cdc.gov/physicalactivity/basics/>
- Lee, I; Shiroma, E; Lobelo, F; Pusha, P; Blair, S; Katzmarayk, P. (July 18, 2012). "Effect of physical inactivity on major non-communicable disease worldwide: an analysis of burden of disease and life expectancy. *The Lancet*. Retrieved on September 11, 2015 from <http://www.sciencedirect.com/science/article/pii/S0140673612610319>
- Friedenreich, C; Neilson, H; O'Reilly, R; et al. (July 16, 2015). "Effects of a High vs Moderate Volume of Aerobic Exercise on Adiposity Outcomes in Postmenopausal Women: A Randomized Clinical Trial." *JAMA Oncol*. Retrieved on September 11, 2015 from <http://oncology.jamanetwork.com/article.aspx?articleid=2396584>
- Centers from Disease Control and Prevention. (2015) "Nutrition, Physical Activity and Obesity Data, Trends and Maps." Retrieved on September 11, 2015 from <http://www.cdc.gov/obesity/data/databases.html>
- National Cancer Institute. (n.d.) "Cancer Trends in Progress Report." Retrieved on September 11, 2015 from <http://progressreport.cancer.gov/prevention/weight>
- Wisconsin Department of Health Services. (2015). "Health Counts in Wisconsin." Retrieved on September 11, 2015 from <https://www.dhs.wisconsin.gov/publications/p45336-14.pdf>
- Wisconsin Department of Health Services. (2013) "Healthy Smiles/Healthy Growth – Wisconsin's Third Grade Children." Retrieved on September 11, 2015 from <http://www.dhs.wisconsin.gov/publications/P0/p00589.pdf>
- Wisconsin Department of Public Instructions. "2013 Youth Risk Behavior Survey Results, Wisconsin High School Survey, Summary Tables-Weighted Data." Retrieved on September 11, 2015 from <http://sppw.dpi.wi.gov/sites/default/files/imce/sppw/pdf/yrsb13sumtable.pdf>
- Centers for Disease Control and Prevention. (2014). "State Indicator Report on Physical Activity." Retrieved on September 11, 2015 from http://www.cdc.gov/physicalactivity/downloads/pa_state_indicator_report_2014.pdf
- Kushi, L; Doyle, C; McCullough, M; Rock, C; Demark-Wahnefried, W; Bandera, E; Gapsur, S; Patel, A; Andrews, K; Gansler, T; and The American Cancer Society 2010 Nutrition and Physical Activity Guidelines Advisory Committee. (2012). "American Cancer Society guidelines on nutrition and physical activity for cancer prevention." *CA: A Cancer Journal for Clinicians*, 62(1). Retrieved on September 11, 2015 from <http://onlinelibrary.wiley.com/doi/10.3322/caac.20140/full>
- Guide to Community Preventive Services. (2014). Increasing Physical Activity: Environmental and Policy Approaches. Retrieved on September 11, 2015 from <http://www.thecommunityguide.org/pa/environmental-policy/index.html>
- Legislative Fiscal Bureau. (2015) "Repeal of Statute Requiring Bicycle and Pedestrian Facilities" Retrieved on September 11, 2015 from <http://legis.wisconsin.gov/lfb/publications/budget/2015-17%20budget/documents/budget%20papers/655.pdf>
- Wisconsin Statute § 84.01(35).
- La Crosse County, Wisconsin. (2011). "La Crosse County Complete Streets Policy." Retrieved on September 11, 2015 from <http://www.smartgrowthamerica.org/documents/cs/policy/cs-wi-lacrossecounty-resolution.pdf>
- City of Oshkosh. (n.d.). "Pedestrian and Bicycle Circulation Plan." Retrieved on September 11, 2015 from http://www2.ci.oshkosh.wi.us/Community_Development/Planning_Services/pedestrian_bicycle_plan/index.htm
- County Health Rankings and Roadmaps. (2015). "Wisconsin Access to exercise opportunities" Retrieved on September 11, 2015 from <http://www.countyhealthrankings.org/app/wisconsin/2015/measure/factors/132/map>
- University of Wisconsin Population Health Institute. (2010). "Join use agreements." What Works for Health: Policies and Programs to Improve Wisconsin's Health. Retrieved on September 11, 2015 from <http://whatworksforhealth.wisc.edu/program.php?t1=21&t2=12&t3=79&cid=458>
- Centers for Disease Control and Prevention. (2015). "Whole School, Whole Community, Whole Child." Retrieved September 17, 2015 from <http://www.cdc.gov/healthyschools/wscw/index.htm>
- Institute of Medicine. (2012). "Accelerating Progress in Obesity Prevention." Accessed at https://sph.uth.edu/research/centers/dell/resources/IOM_Summary_brief_v4.pdf
- National Association of State Boards of Education. (n.d.) "State School Health Policy Database." http://www.nasbe.org/healthy_schools/hs/
- American Academy of Pediatrics (2012). "Policy Statement: The Crucial Role of Recess in Schools." Retrieved on September 11, 2015 from <http://pediatrics.aappublications.org/content/131/1/183.full.pdf+html>
- Wisconsin Administrative Code Chapter PI 8.01, School district standards, (2) (j) and (k). Accessed here <http://cal.dpi.wi.gov/sites/default/files/imce/cal/pi/wi-edstds.pdf>
- Let's Move Active Schools. "2015 Let's Move Active Schools Award Recipients." Retrieved on September 17, 2015 from <http://static1.squarespace.com/static/53b1a843e4b0dcbabf4b4851e/55ced98ae4b0d8cb341a611f/1441716618610/2015+LMAS+National+Awardee.es.pdf>
- WI Comprehensive Cancer Control Plan 2015-2020. Retrieved on September 11, 2015 from www.wicancer.org
- US Surgeon General. (2015). "Step It Up." The Surgeon General's Call to Action to Promote Walking and Walkable Communities." Retrieved on September 11, 2015 from <http://www.surgeongeneral.gov/library/calls/walking-and-walkable-communities/index.html>
- Representative David Steffan. (2015). "Co-sponsorship of LRB 2125/1, the Get Youth Moving Act." Retrieved on September 11, 2015 from http://www.thewheelerreport.com/wheeler_docs/files/lrb2125csm.pdf



Comprehensive Cancer Control Program

University of Wisconsin
WI Comprehensive Cancer Control Program
370 WARF Building
610 Walnut Street
Madison, WI 53726

Editors: Amy Conlon, MPH
Sarah Kerch, MPH
Emily Reynolds, MPA
Layout and Design: Media Solutions

Funding is provided by
The Centers for Disease Control and Prevention,
The Wisconsin Department of Health Services,
the Wisconsin Partnership Program, and
the University of Wisconsin Carbone Cancer Center.

For more information contact:
Sarah Kerch
608.262.8599
skerch@uwcarbone.wisc.edu