



WHAT WORKS

Cancer Prevention and Control: Skin Cancer Prevention

Evidence-Based Interventions for Your Community



Skin cancer is the most common form of cancer in the United States. People can lower their risk of getting skin cancer by getting less sun exposure, protecting themselves while in the sun, and avoiding indoor tanning. This brochure is designed to help public health program planners, community advocates, educators, and policymakers find proven intervention strategies—including programs, services, and policies—to prevent skin cancer. It can help decision makers in both public and private sectors make choices about what intervention strategies are best for their communities.

This brochure summarizes information in The Guide to Community Preventive Services (The Community Guide), an essential resource for people who want to know what works in public health. Use the information in this brochure to help select intervention strategies you can adapt for your community to:

- Reduce sun exposure, especially during peak hours
- Improve knowledge and attitudes about sun protection among children and adults
- Change policies and create sun-safe environments

The Community Guide provides evidence-based findings and recommendations from the Community Preventive Services Task Force (Task Force) about community preventive services, programs, and policies to improve health. Learn more about The Community Guide and what works to decrease the incidence of cancer by visiting www.thecommunityguide.org/cancer.

The Centers for Disease Control and Prevention provides administrative, research, and technical support for the Community Preventive Services Task Force.

THE PUBLIC HEALTH CHALLENGE

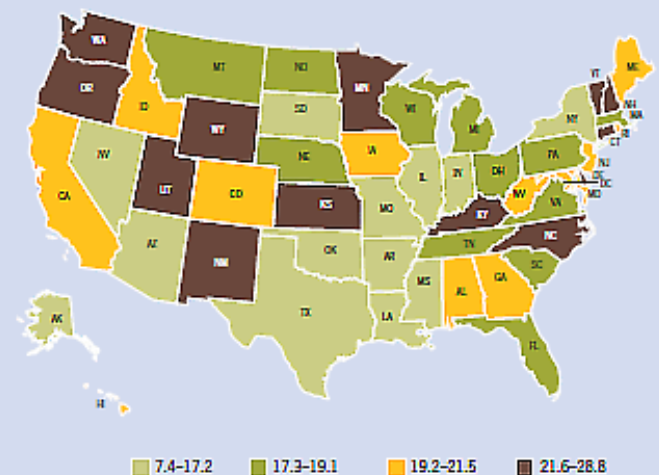
Skin cancer is common and preventable

- **Basal cell and squamous cell carcinomas** are the most common types of skin cancer. They are highly curable but can be disfiguring and costly to treat.¹
- Each year nearly **60,000** people are diagnosed with the more dangerous **melanoma**. Thousands die from it.²
- **65-90% of melanomas** are caused by exposure to ultraviolet light from the sun, tanning beds, and sunlamps.³
- Just a **few serious sunburns** in childhood can increase skin cancer risk later in life.⁴

People can do more to protect themselves

- More than **one-third of adults** and **one-third of teens** get at least one sunburn a year.^{5,6}
- About **one-half of teens** who get sunburns are white; approximately **one-quarter** are Hispanic or Asian.⁶
- Just over **one-half of adults** use sunscreen, wear protective clothes, or seek shade when in the sun.⁷
- Among high-school students, **18%** wear protective clothes or stay in the shade while **11%** use sunscreen.^{8,9}

Melanoma of the Skin Incidence Rates* by State, 2008



For more information on skin cancer in the U.S. or in your state, see the U.S. Cancer Statistics at <http://apps.nccd.cdc.gov/uscs>.

EVALUATING THE EVIDENCE

- The Task Force findings and recommendations for interventions that improve skin cancer prevention are based on systematic reviews of the available evidence.
- The systematic reviews look at the results of research and evaluation studies published in peer-reviewed journals and other sources.
- Each systematic review looks at each intervention's effectiveness and how it works in different populations and settings. If found effective, cost and return on investment are also reviewed when available.
- For each intervention, a summary of the systematic review, evidence gaps, and journal publications can be found on the Cancer Prevention and Control section of the website at www.thecommunityguide.org/cancer.

▶ Community Preventive Services Task Force

The Guide to Community Preventive Services (The Community Guide) is an essential resource for people who want to know what works in public health. It provides evidence-based recommendations and findings about public health interventions and policies to improve health and promote safety. The Community Preventive Services Task Force (Task Force)—an independent, nonfederal, unpaid body of public health and prevention experts—bases its findings and recommendations on systematic reviews of the scientific literature. With oversight from the Task Force, scientists and subject matter experts from the Centers for Disease Control and Prevention conduct these reviews in collaboration with a wide range of government, academic, policy, and practice-based partners.

More information about how the Task Force conducts its reviews is available at www.thecommunityguide.org/about/methods.html.

SUMMARIZING THE FINDINGS ON SKIN CANCER PREVENTION

All Task Force findings and recommendations on skin cancer prevention are available online at www.thecommunityguide.org/cancer. Some of the Task Force recommendations related to skin cancer prevention are below.

✓ **Education and policy approaches in primary school settings.** Younger children are more willing than adolescents to practice self-protective behaviors and are more receptive to instruction by adults. Skin cancer prevention interventions in primary school settings encourage children in kindergarten through eighth grade to protect themselves from the sun. Approaches can include teaching children directly about how to protect themselves, educating teachers or parents, handing out brochures or videos, or changing school policies (e.g., scheduling outdoor activities outside of peak sun hours). These interventions can significantly increase knowledge and change attitudes about sun protection. They can also make children more likely to cover up with protective clothes while in the sun.

✓ **Education and policy approaches in outdoor recreation settings.** Interventions in recreational or tourist settings can increase the percentage of adults who cover up while in the sun. These interventions

use approaches like educational brochures, sun-safety training and lessons (by experts like lifeguards), making shaded areas more available, and providing sunscreen. Some studies suggest that these interventions can also improve children's sun-protective behaviors (like sunscreen use and covering up), but more evidence is needed.

✓ **Multicomponent community-wide interventions.** Combining individual-focused strategies, mass media campaigns, and environmental and policy changes can influence UV-protective behaviors when implemented in a specific geographic area (such as a city, state, or province). These interventions require a substantial investment of resources. To maximize benefits, they should be implemented for at least one year.

PUTTING THE TASK FORCE FINDINGS TO WORK

As a public health decision maker, practitioner, community leader, or someone who can influence the health of your community, you can use The Community Guide to create a blueprint for success.

✓ Identify your community's needs. Review the intervention strategies recommended by the Task Force and determine which ones best match your needs. Adopt, adapt, or develop evidence-based programs, services, and policies that can prevent skin cancer.

✓ Explore Cancer Control P.L.A.N.E.T.'s Research-Tested Intervention Programs (RTIPs), community-based and clinical programs that have been evaluated, found to be effective, and published in a peer-reviewed journal. Look for the National Cancer Institute's Cancer Control P.L.A.N.E.T. icon on The Community Guide website or visit <http://rtips.cancer.gov/rtips> to read about real-world programs that might be adaptable to your needs. You can learn more about RTIPs at www.thecommunityguide.org/cancer/screening/client-oriented/rtips.html.

✓ See how other communities have applied the Task Force recommendations and other intervention strategies for preventing skin cancer at www.cdc.gov/cancer/ncccp/state.htm. Get ideas from their success stories.

✓ Use the Centers for Disease Control and Prevention (CDC) resources on skin cancer prevention at www.cdc.gov/cancer/skin to find publications, manuals, toolkits, and other guides for implementing an effective skin cancer prevention program.

FOR MORE INFORMATION

The Community Guide: Cancer Prevention and Control

www.thecommunityguide.org/cancer

Division of Cancer Prevention and Control, CDC

www.cdc.gov/cancer

National Cancer Institute: Cancer Control P.L.A.N.E.T.

<http://cancercontrolplanet.cancer.gov>

Skin Cancer Statistics

CDC

<http://www.cdc.gov/cancer/skin/statistics/>

SunWise Program

U.S. Environmental Protection Agency

<http://www2.epa.gov/sunwise>



THE COMMUNITY GUIDE IN ACTION

Creating a SunSmart Australia



Australia has the highest incidence of skin cancer of any country, and the disease costs the national healthcare system more than \$294 million annually.¹⁰ In 1988, the state of Victoria launched SunSmart to encourage sun-protective behaviors and minimize the human cost of skin cancer. A multicomponent, community-wide intervention, SunSmart aims to raise awareness, change personal behaviors, and influence institutional policy and practices. Activities include mass media campaigns, school- and worksite-based programs, a sports program, healthcare provider education, resource development and dissemination, and capacity-building at the community level. Since SunSmart began, rates of skin cancer have begun to taper off, especially in younger age groups. It's estimated that SunSmart saves \$2.30 in healthcare costs for every dollar spent.¹⁰ Read more about SunSmart at www.sunsmart.com.au.

Pool Cool: Sun Safety for Little Swimmers



Pool Cool is a sun safety education program designed for children ages 5-10 (as well as parents, pool staff, and other pool users) which takes place at public pools around the United States. The program is centered around eight brief sun-safety lessons taught at the beginning of regular swim classes. First piloted in Hawaii and Massachusetts, Pool Cool has now been evaluated at more than 400 pools across the country. Research has shown that pools implementing the program have more protected pool environments, better sun protection habits among children and parents, and fewer sunburns among lifeguards. Read more about Pool Cool at rtips.cancer.gov/rtips/programDetails.do?programId=288737.

REFERENCES

¹ Guy GP, Ekwueme DU. Years of potential life lost and indirect costs of melanoma and non-melanoma skin cancer: a systematic review of the literature. *Pharmacoeconomics* 2011;29(10):863-74.

² U.S. Cancer Statistics Working Group. United States Cancer Statistics: 1999-2008 Incidence and Mortality Web-based Report. Atlanta: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention and National Cancer Institute; 2012. Available at <http://www.cdc.gov/uscs>. Accessed on August 15, 2012.

³ Armstrong BK, Kricker A. How much melanoma is caused by sun exposure? *Melanoma Research* 1993;3(6):395-401.

⁴ Veierod MB, Weiderpass E, Thorn M, Hansson J, Lund E, Armstrong B, et al. A prospective study of pigmentation, sun exposure, and risk of cutaneous malignant melanoma in women. *Journal of the National Cancer Institute* 2003;95(20):1530-1538.

⁵ Centers for Disease Control and Prevention. Sunburn Prevalence Among Adults—United States, 1999, 2003, and 2004. *Morbidity and Mortality Weekly Report* 2007;56(21):524-528.

⁶ Centers for Disease Control and Prevention. QuickStats: percentage of teens aged 14-17 years who had a sunburn during the preceding 12 months, by race/ethnicity—National Health Interview Survey, United States, 2010. *Morbidity and Mortality Weekly Report* 2011;60(30):1028.

⁷ National Cancer Institute. Cancer Trends Progress Report—2009/2010 Update: Sun Protection. National Cancer Institute Web site. Available at http://progressreport.cancer.gov/doc_detail.asp?pid=1&did=2007&chid=71&coid=711&mid. Accessed on August 15, 2012.

⁸ Centers for Disease Control and Prevention. Youth risk behavior surveillance—United States, 2005. *MMWR Surveillance Summaries* 2006;55(SS-5):1-108.

⁹ Centers for Disease Control and Prevention. Youth risk behavior surveillance—United States, 2011. *MMWR Surveillance Summaries* 2012;61(SS-4):1-168.

¹⁰ SunSmart Australia. History. Available at <http://www.sunsmart.com.au/about/history>. Accessed on March 17, 2014.






WHAT WORKS










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TASK FORCE FINDINGS ON SKIN CANCER PREVENTION

The Community Preventive Services Task Force (Task Force) has released the following findings on what works in public health to prevent skin cancer. These findings are compiled in The Guide to Community Preventive Services (The Community Guide) and listed in the table below. Use the findings to identify strategies and interventions you could use for your community.




Legend for Task Force Findings:  Recommended  Insufficient Evidence  Recommended Against (See reverse for detailed descriptions.)

Intervention	Task Force Finding
Education and Policy Approaches	
Child care center-based interventions	
Healthcare settings and providers	
High school- and college-based interventions	
Interventions in outdoor occupational settings	
Interventions in outdoor recreational and tourism settings	
Primary and middle school-based interventions	
Interventions Targeting Children’s Parents and Caregivers	
Interventions targeting children’s parents and caregivers	
Community-Wide Interventions	
Mass media	
Multicomponent community-wide interventions	

Visit the “Cancer Prevention and Control” page of The Community Guide website at www.thecommunityguide.org/cancer to find summaries of Task Force findings and recommendations on skin cancer prevention. Click on each topic area to find results from the systematic reviews, included studies, evidence gaps, and journal publications.

UNDERSTANDING THE FINDINGS


The Task Force bases its findings and recommendations on systematic reviews of the scientific literature. With oversight from the Task Force, scientists and subject matter experts from the Centers for Disease Control and Prevention conduct these reviews in collaboration with a wide range of government, academic, policy, and practice-based partners. Based on the strength of the evidence, the Task Force assigns each intervention to one of the categories below.

CATEGORY	DESCRIPTION	ICON
Recommended	There is strong or sufficient evidence that the intervention is effective . This finding is based on the number of studies, how well the studies were designed and carried out, and the consistency and strength of the results.	
Insufficient Evidence	There is not enough evidence to determine whether the intervention is effective. This does not mean the intervention does not work. There is not enough research available or the results are too inconsistent to make a firm conclusion about the intervention’s effectiveness. The Task Force encourages those who use interventions with insufficient evidence to evaluate their efforts.	
Recommended Against	There is strong or sufficient evidence that the strategy is harmful or not effective .	

Visit the “Systematic Review Methods” page on The Community Guide website at www.thecommunityguide.org/about/methods.html for more information about the methods used to conduct the systematic reviews and the criteria the Task Force uses to make findings and recommendations.

RESOURCES

You can use the following resources to guide the implementation of evidence-based strategies and put the Task Force findings to work.

- **Success Stories in Cancer Prevention**
National Comprehensive Cancer Control Program, CDC
www.cdc.gov/ncccp/state.htm
- **Resources on Skin Cancer Prevention**
Centers for Disease Control and Prevention
www.cdc.gov/cancer/skin
- **Directory of Research-tested Intervention Programs (RTIPs)** 
National Cancer Institute and Substance Abuse and Mental Health Services
<http://rtips.cancer.gov/rtips/index.do>