

# Community-wide Interventions to Prevent Skin Cancer



## Recommendation of the Community Preventive Services Task Force

Community Preventive Services Task Force

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### Task Force Finding

**T**he Community Preventive Services Task Force recommends multicomponent community-wide interventions to prevent skin cancer by increasing ultraviolet radiation (UVR) protective behaviors, based on sufficient evidence of effectiveness in increasing sunscreen use. Some evidence also indicates benefits in reducing sunburns. Results for effects on other protective behaviors are mixed.

A summary of the Task Force finding and rationale is available at: [www.thecommunityguide.org/cancer/skin/community-wide/multicomponent.html](http://www.thecommunityguide.org/cancer/skin/community-wide/multicomponent.html).

A separate systematic review was conducted on the effectiveness of mass media interventions to reduce skin cancer. The Task Force issued a finding for this review as well.

The Community Preventive Services Task Force finds insufficient evidence to determine effectiveness of mass media interventions to prevent skin cancer by reducing exposure to UVR. Although available evidence generally indicates that mass media interventions are associated with improvements in protective and preventive behaviors, the small number of studies, several with methodologic limitations, make it difficult to draw clear conclusions.

A summary of the Task Force finding and rationale is available at: [www.thecommunityguide.org/cancer/skin/community-wide/massmedia.html](http://www.thecommunityguide.org/cancer/skin/community-wide/massmedia.html).

Because the mass media review did not result in a recommendation, the findings of that review will not be discussed further in this article.

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Names and affiliations of Community Preventive Services Task Force members can be found at: [www.thecommunityguide.org/about/task-force-members.html](http://www.thecommunityguide.org/about/task-force-members.html).

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0749-3797/\$36.00

<http://dx.doi.org/10.1016/j.amepre.2016.03.019>

### Definition

Multicomponent community-wide interventions to prevent skin cancer use combinations of individual-directed strategies, mass media campaigns, and environmental and policy changes across multiple settings within a defined geographic area (city, state, province, or country), in an integrated effort to influence UVR protective behaviors. The interventions are usually delivered with a defined theme, name, logo, and set of messages. Programs vary substantially in duration and in breadth of included components.

Studies were eligible for this review if they included at least two distinct components (e.g., educational, environmental, policy) that were either implemented in different types of settings (e.g., schools, recreation areas) or directed at an entire community in a defined geographic area (e.g., city, county, school district).

### Basis of Finding

The Task Force finding is based on evidence from a Community Guide systematic review published in 2004 (search period, January 1966–June 2000) combined with more recent evidence (search period, January 2000–April 2013). Based on the combined evidence, the Task Force now recommends this intervention based on sufficient evidence of effectiveness for increasing sunscreen use; there was also some evidence of effectiveness in reducing sunburns, with mixed results for protective behaviors such as wearing protective clothing and hats, seeking shade, and limiting outdoor activities during peak UVR hours. This recommendation replaces the previous finding of insufficient evidence to determine effectiveness of this intervention.

Evidence for the finding comes from seven studies<sup>1–7</sup> that evaluated intervention effects on a variety of UVR protective behaviors. All seven studies indicated an increase in sunscreen use attributable to the intervention; the median increase in sunscreen use was 10.8 (interquartile interval=7.3, 23.2) percentage points from the

six studies<sup>1,3–7</sup> with results that could be expressed in this metric. For the other assessed protective behaviors—use of shade, hats, and other protective clothing—results were mixed, with several small or negative effect estimates. Three studies<sup>2,3,6</sup> showed evidence of small positive effects of efforts to limit exposure to UVR by decreasing sunbathing or use of tanning beds, or reducing time spent in the sun during peak hours. Two of these studies<sup>2,3</sup> also indicated a decrease in sunburns, with one study<sup>3</sup> showing a particularly large decrease in sunburn incidence from 18.6% to 3.2% among children aged <6 years (a decrease of 15.4 percentage points, 95% CI= -21.2, -9.6).

### Applicability

Although most evidence for this review comes from outside of the U.S., the finding is likely to be applicable to the U.S. context because results were similar across countries, and the strongest evidence of intervention effectiveness comes from a U.S. study.<sup>1</sup> Six of the seven interventions<sup>1,2,4–7</sup> assessed in this review included mass media components as part of the multicomponent program; most also included components implemented in several community settings, most commonly schools, recreation areas, and child care centers. All of the interventions were intensive campaigns designed to reach a substantial proportion of the target population for an extended period of time, in multiple contexts. They all lasted at least 1 year, and one has been ongoing for >20 years.<sup>2</sup> It is unclear whether less extensive interventions would achieve similar results.

Interventions targeted various populations: Some were directed at all age groups and others primarily at children and their parents or caregivers. Although favorable effects were observed across all age groups, the largest increases in sunscreen use were among children. Limited information was available about effectiveness among different demographic groups. Among different racial and ethnic groups, and people of different skin sensitivities, there may be important differences in the effectiveness of this intervention for changing UVR protective behaviors, and in the effects of such behavior changes on skin cancer risk.

### Considerations for Implementation

To maximize their effects, multicomponent community-wide interventions to increase UVR protective behaviors should be implemented for an extensive period of time, as has been done successfully in Australia. Such interventions require a substantial commitment of resources

and infrastructure that has never been sustained in the U.S. To the extent that these interventions can be appropriately implemented, their health communication messages delivered through the mass media and in setting-specific contexts, along with policy and environmental changes, can be mutually reinforcing and produce a solid basis for initiating and maintaining behavior changes.

### Evidence Gaps

Existing evidence showed that more research is needed to identify the key components that play critical roles in the success of multicomponent community-wide interventions. For example, most programs included in this review were intensive campaigns with combinations of multiple intervention components designed to reach broad populations; it is unclear whether less extensive interventions would show similar results.

In terms of future research, additional studies with stronger research designs than pre–post would be valuable to clarify effectiveness of multicomponent community-wide interventions to reduce UVR exposure. Better descriptions of intervention demographics, populations, setting, and scope in published papers would help in assessing the applicability of findings or explaining variability in effects.

Finally, although the link between development of skin cancer and exposure to UVR is well established, more long-term studies about how UVR protective behaviors relate to development of skin cancer are needed.

### References

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