

# Preventing Skin Cancer: Multicomponent Community-Wide Interventions

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## Task Force Finding and Rationale Statement

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Suggested Citation:

The Community Preventive Service Task Force (CPSTF). *Preventing Skin Cancer: Multicomponent Community-Wide Interventions*. The Community Guide [www.thecommunityguide.org]. The Community Preventive Service Task Force, Atlanta, Georgia, 2012. <https://doi.org/10.15620/cdc/168581>

## Task Force Finding and Rationale Statement

### Intervention 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 UV-protective behaviors. They are usually delivered with a defined theme, name, logo, and set of messages. Programs vary substantially in duration and the breadth of included components.

Studies were eligible for this review if they included at least two distinct components that were either implemented in different types of settings (e.g., schools, recreation areas) or directed at an entire community (e.g., mass media campaigns).

### Task Force Finding (April 2012)

The Community Preventive Services Task Force recommends multicomponent community-wide interventions to prevent skin cancer by increasing UV-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.

### Rationale

#### 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–May 2011). The Task Force now recommends this intervention based on sufficient evidence of effectiveness; they previously found 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 UV-protective behaviors. All seven studies indicated an increase in sunscreen use attributable to the intervention; the median increase in sunscreen use was 10.8 percentage points (interquartile interval [IQR]: 7.33 to 23.23 percentage points) from the six studies<sup>1, 3–7</sup> with results that could be expressed in this metric. For the other protective behaviors assessed—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 UV radiation 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 under 6 years of age (a decrease of 15.4 percentage points; 95% CI: -21.2, -9.6).

#### Applicability and Generalizability Issues

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> All but one<sup>1, 2, 4–7</sup> of the interventions 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 childcare 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 one year, and one has been ongoing for more than 20 years.<sup>2</sup> It is unclear whether less extensive interventions would achieve similar results.

Interventions targeted various populations, and some were directed at all age groups, while others were primarily for 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 UV-protective behaviors, and in the effects of such behavior changes on skin cancer risk.

### **Data Quality Issues**

Evaluating the behavioral effects of multicomponent community-wide interventions presents several challenges. Problems identifying the unique contributions of different components, which are common to multicomponent interventions, are compounded by the fact that these interventions are often carried out over several years. Over the course of the intervention, its components, settings, health communication objectives, and target audiences can change substantially. Furthermore, many of the interventions were developed in ways that made it difficult to clearly distinguish intervention effects from changes in behavior due to other factors. For example, many interventions were implemented over time on a national level, offering little opportunity to identify appropriate comparison groups.

### **Other Benefits and Harms**

No other benefits or harms specific to multicomponent community-wide programs to prevent skin cancer have been identified by the review team or in the published literature. Although some people have postulated that the behavior changes advocated in these interventions may lead to decreases in physical activity and lower levels of vitamin D, there is little available evidence about these potential harms.

### **Considerations for Implementation**

To maximize their effects, multicomponent community-wide interventions to increase UV-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.

*The data presented here are preliminary and are subject to change as the systematic review goes through the scientific peer review process.*

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## **Disclaimer**

The findings and conclusions on this page are those of the Community Preventive Services Task Force and do not necessarily represent those of CDC. Task Force evidence-based recommendations are not mandates for compliance or spending. Instead, they provide information and options for decision makers and stakeholders to consider when determining which programs, services, and policies best meet the needs, preferences, available resources, and constraints of their constituents.

Document last updated May 17, 2012