Complete Summary

GUIDELINE TITLE

Preventing skin cancer: findings of the Task Force on Community Preventive Services on Reducing Exposure to Ultraviolet Light.

BIBLIOGRAPHIC SOURCE(S)

Saraiya M, Glanz K, Briss P, Nichols P, White C, Das D. Preventing skin cancer: findings of the Task Force on Community Preventive Services on Reducing Exposure to Ultraviolet Light. MMWR Recomm Rep 2003 Oct 17;52(RR-15):1-12. [28 references] PubMed

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SCOPE

DISEASE/CONDITION(S)

Skin cancer

GUIDELINE CATEGORY

Prevention

CLINICAL SPECIALTY

Dermatology
Family Practice
Oncology
Pediatrics
Preventive Medicine

INTENDED USERS

Advanced Practice Nurses
Allied Health Personnel
Health Care Providers
Nurses
Physician Assistants
Physicians
Public Health Departments

GUIDELINE OBJECTIVE(S)

To present recommendations regarding interventions to reduce ultraviolet (UV) exposure and increase ultraviolet protective behaviors for prevention of skin cancer

TARGET POPULATION

Adult and pediatric populations in the United States

INTERVENTIONS AND PRACTICES CONSIDERED

Interventions to Reduce Exposure to Ultraviolet Light and Increase Protective Behaviors

1. Setting-specific interventions: educational and policy approaches in primary schools, child care centers*, secondary schools and colleges*, recreational or tourism sites, workplaces*, and health-care settings and for health-providers*
2. Target population-specific interventions oriented to children´s parents or caregivers*
3. Communitywide interventions, such as media campaigns alone and communitywide multicomponent interventions*

*Guideline developers considered these interventions but found insufficient evidence to determine whether or not they are effective.

MAJOR OUTCOMES CONSIDERED

Efficacy of prevention interventions at decreasing sunburns or exposure to ultraviolet (UV) light and improving sun-protective behaviors

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Hand-searches of Published Literature (Primary Sources)
Hand-searches of Published Literature (Secondary Sources)
Searches of Electronic Databases

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

Searches of three computerized databases (MEDLINE, PsychINFO, CINAHL) were conducted. Team members also reviewed reference lists and consulted with other specialists in the field (e.g., participants in a skin cancer prevention listserv) to identify relevant studies.

Inclusion Criteria

To be included in the reviews of effectiveness, studies had to:

1. be primary investigations of interventions selected for evaluation rather than, for example, guidelines or reviews
2. be published in English during the years 1966--2000
3. be conducted in established market economies
4. compare outcomes among groups of persons exposed to the intervention with outcomes among groups of persons not exposed or less exposed to the intervention (i.e., the study design included a concurrent or before-and-after comparison.)

Database searches and bibliographic reviews yielded a list of 6,373 potentially relevant titles. After review of the abstracts and consultation with specialists in the field, a total of 313 reports were retrieved. Of these, 154 were not used in the review because they did not provide results, did not refer to an intervention, or reported on noncomparative studies. The remaining 159 were retained for full review. On the basis of limitations in execution or design or because they provided only background information on studies that were already included, 74 of these were excluded and were not considered further.

NUMBER OF SOURCE DOCUMENTS

85 qualifying studies

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Weighting According to a Rating Scheme (Scheme Given)

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Studies were characterized as having good, fair, or limited quality of execution based on the number of threats to validity.

The strength of the body of evidence of effectiveness was characterized as strong, sufficient, or insufficient on the basis of the number of available studies, the suitability of study designs for evaluating effectiveness, the quality of execution of the studies as defined by the Community Guide, the consistency of the results, and the effect size.

METHODS USED TO ANALYZE THE EVIDENCE

Systematic Review with Evidence Tables

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

For each review of interventions regarding skin cancer prevention, the systematic review development team developed a conceptual model (or analytic framework) to show the relationship of the intervention to relevant intermediate outcomes (e.g., knowledge, attitudes and beliefs, and intentions regarding sun-protective behaviors), to implementing key sun-protective behaviors, and to the assumed relationships of improvements in sun-protective behaviors to skin cancer prevention. A representative example of an analytic framework for mass media interventions is illustrated in the original guideline document.

Each included study was evaluated by using a standardized abstraction form and was assessed for suitability of the study design and threats to validity. Studies were characterized as having good, fair, or limited execution based on the number of threats to validity. Results for each outcome of interest were obtained from each study that met the minimum quality criteria. Net effects were derived when appropriate by calculating the difference between the changes observed in the intervention and comparison groups relative to the respective baseline levels. The median was used to summarize a typical measure of effect across the body of evidence for each outcome of interest; both the median and the range are reported. For bodies of evidence consisting of four or more studies, an interquartile range was used to represent variability.

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Other

DESCRIPTION OF METHODS USED TO FORMULATE THE RECOMMENDATIONS

Task Force recommendations are based primarily on the effectiveness of interventions as determined by the systematic literature review process. In making recommendations, the Task Force balances information about the effectiveness of an intervention with information about other potential benefits and potential harms. To determine how widely a recommendation should apply, the Task Force also considers the applicability of the intervention in various settings and populations. Finally, the Task Force reviews economic analyses of those interventions found to be effective and summarizes applicable barriers to intervention implementation. Economic information is provided to assist the reader with decision making but generally does not affect the Task Force´s recommendation.

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Strength of Evidence of Effectiveness = Strength of Recommendation

The strength of each recommendation is based on the evidence of effectiveness (i.e., an intervention is recommended on the basis of either strong or sufficient evidence of effectiveness).

If insufficient evidence to determine effectiveness is found, this means that it was not possible to determine whether or not the intervention works based on the available evidence.

COST ANALYSIS

A formal cost analysis was not performed and published cost analyses were not reviewed.

METHOD OF GUIDELINE VALIDATION

External Peer Review
Internal Peer Review

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

The guideline was submitted for extensive peer review, including review at various stages by a "consultant team," an external team of subject matter and methodologic experts, and peer review of the finished product by agencies and professional groups.

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

The relationship between the strength of evidence of effectiveness and the strength of the recommendation is defined at the end of the "Major Recommendations" field.

Recommendations of the Task Force on Community Preventive Services regarding the use of selected interventions to prevent skin cancer by reducing exposure to ultraviolet (UV) light

Setting-specific Interventions

Intervention: Educational and policy approaches in primary schools

Task Force recommendation for use: Recommended: sufficient evidence of effectiveness in improving children´s sun-protective "covering-up" behavior

Intervention description: Modified short-term curricula using didactic teaching; interactive class- and home-based activities; interactive CD-ROM multimedia programs, peer education; and policy changes

Key findings: Refer to the original guideline document

Intervention: Educational and policy approaches in recreational or tourism settings

Task Force recommendation for use: Recommended: sufficient evidence of effectiveness in improving adult sun-protective "covering-up" behavior

Intervention description: Single-and multicomponent interventions designed to increase knowledge; influence attitudes, beliefs, and intentions; and change behavior of adults and children

Key findings: Refer to the original guideline document

Task Force conclusion: Insufficient evidence to determine effectiveness in improving children´s sun-protective behaviors

Intervention description: Included one or more of the following: educational brochures, including culturally relevant materials and photographs of skin cancer lesions; sun-safety training of and role-modeling by lifeguards, aquatic instructors, and outdoor recreation staff; sun-safety lessons, interactive activities, and incentives for parents and children; increasing available shaded areas; providing sunscreen; and point-of-purchase prompts

Key findings: Refer to the original guideline document

Intervention: Educational and policy approaches in child care centers

Task Force conclusion: Insufficient evidence to determine effectiveness

Intervention description: Ranged from a curriculum that included interactive classroom and take-home activities to staff education, brochures for parents, and a working session to develop skin protection plans for centers. All focused on some combination of increasing application of sunscreen, scheduling activities to avoid peak sun hours, increasing availability of shade and encouraging children to play in shady areas, and encouraging children to wear sun-screen.

Key findings: Refer to the original guideline document

Intervention: Educational and policy approaches in occupational settings

Task Force conclusion: Insufficient evidence to determine effectiveness

Intervention description: Single-and multicomponent interventions designed to increase knowledge; influence attitudes, beliefs, and intentions; and change behavior of workers. Included one or more of the following: surveys and questionnaires to assess knowledge, attitudes, beliefs, intentions, and behavior; sun-safety training of safety officers, managers, outdoor recreation and swimming pool staff; peer-leader modeling of sun-safe behaviors; brochures or didactic instruction; sun-safety lessons, interactive activities, and incentives for parents and children; provision or promotion of sun-protective gear or products (wide-brimmed hats, long-sleeved shirts, sunglasses, sunscreen, and shade structures); and screening and assessment by dermatologists

Key findings: Refer to the original guideline document

Intervention: Educational and policy approaches in health-care settings and for providers

Task Force conclusion: Insufficient evidence to determine effectiveness

Intervention description: Single-or multicomponent interventions designed to increase knowledge, attitudes, sun-protective behaviors, and counseling behaviors of providers (e.g., physicians, nurses, physician assistants, medical students, and pharmacists), with the ultimate aim of improving clients' sun-protective behaviors

Health-care settings (i.e., pharmacy, drugstore, clinic, physician´s office, and medical schools) also used to recruit and change client´s (patient´s) knowledge, attitude, and sun-protective behaviors

Included provider education sessions, Internet-based education, videos, and role modeling. No policy approaches used in this setting

Key findings: Refer to the original guideline document

Target Population-specific Interventions

Intervention: Interventions oriented to children´s parents or caregivers

Task Force conclusion: Insufficient evidence to determine effectiveness

Intervention description: Single-and multicomponent interventions designed to increase knowledge; influence attitudes, beliefs, and intentions; and change behavior of parents or caregivers (including teachers and coaches) and children under their care. Included one or more of the following: surveys and questionnaires to assess knowledge, attitudes, beliefs, intentions, and behavior; educational brochures, newsletters, tip cards, and postcard reminders at end of summer sun-safety

Key findings: Refer to the original guideline document

Communitywide Interventions

Intervention: Media campaigns alone

Task Force conclusion: Insufficient evidence to determine effectiveness

Intervention description: Mass media with or without small media. Majority were low-intensity interventions using television programs, CD-ROM-based information kiosks, and reporting of UV index. Small media included brochures, flyers, newsletters, informational letters, or videos.

Key findings: Refer to the original guideline document

Intervention: Communitywide multicomponent interventions

Task Force conclusion: Insufficient evidence to determine effectiveness

Intervention description: Combinations of individual-directed strategies, media campaigns, and environmental and policy changes, in an integrated effort in a defined geographic area (city, state, province, or country). Programs may also incorporate setting-specific strategies. Usually delivered with a defined theme, name or logo, and set of messages

Studies were included if they occurred in a defined geographic area and included at least two components and more than a single setting.

Comprehensive communitywide interventions defined as multilevel (i.e., include multiple individual-directed, setting-specific, and communitywide components), addressing a substantial proportion of the population in a defined area, and lasting longer than 1 year

Key findings: Refer to the original guideline document

Definitions:

Strength of Evidence of Effectiveness = Strength of Recommendation

The strength of each recommendation is based on the evidence of effectiveness (i.e., an intervention is recommended on the basis of either strong or sufficient evidence of effectiveness).

If insufficient evidence to determine effectiveness is found, this means that it was not possible to determine whether or not the intervention works based on the available evidence.

CLINICAL ALGORITHM(S)

None provided

EVIDENCE SUPPORTING THE RECOMMENDATIONS

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

The Task Force recommendations in this report are based on the systematic review and evaluation of 85 qualifying studies, all of which had good or fair quality of execution. In general, the strength of evidence of effectiveness corresponds directly to the strength of recommendations (see the "Major Recommendations" field).

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

Overall Potential Benefits

By implementing interventions demonstrated to be effective in reducing exposure to ultraviolet (UV) light and increasing sun-protective behaviors, policy makers and public health providers can help their communities achieve these goals while using community resources efficiently.

Specific Potential Benefits

- Educational and policy approaches in primary schools: There is sufficient evidence of improvement in children´s sun-protective "covering-up" behavior (wearing protective clothing – hat, shirt, cover-up garments, or pants). Median relative increase of 25% (interquartile range: 1–40%, 6 studies) for studies using a concurrent control group; larger among studies using a before-and-after design.
- Educational and policy approaches in recreational or tourism settings: There is sufficient evidence of effectiveness in increasing adult sun-protective "covering-up" behavior (wearing protective clothing – hat, shirt, cover-up garment, or pants). Median net increase of 11.2% (interquartile range: 5.1–12.9%, 5 studies).

POTENTIAL HARMS

- Vitamin D deficiency
- Less physical activity

QUALIFYING STATEMENTS

QUALIFYING STATEMENTS

- The Task Force on Community Preventive Services (the Task Force) is developing the Guide to Community Preventive Services (the Community Guide), a resource that includes multiple systematic reviews, each focusing on a preventive health topic. The Community Guide is being developed with the support of the U.S. Department of Health and Human Services (DHHS) in collaboration with public and private partners. Although the Centers for Disease Control and Prevention (CDC) provides staff support to the Task Force for development of the Community Guide, the recommendations presented in this report were developed by the Task Force and are not necessarily the recommendations of U.S. Department of Health and Human Services or the Centers for Disease Control and Prevention.
- A finding of insufficient evidence to determine effectiveness should not be interpreted as evidence of ineffectiveness. Insufficient evidence may be found for any of a number of reasons, alone or in combination, including an insufficient number of studies; too many threats to the validity of the available studies based on their design, execution, or both; conflicts in the results of the studies that preclude a coherent summary of effectiveness; or no indication that the outcomes measured to date, by themselves, represent success in improving health. In all these situations, a finding of insufficient evidence to determine effectiveness is important for identifying areas of uncertainty and continuing research needs. In contrast, sufficient or strong evidence of ineffectiveness would lead to a recommendation against use of the intervention.

- Although the strength of each recommendation is based on the evidence of effectiveness (i.e., an intervention is recommended on the basis of either strong or sufficient evidence of effectiveness), other types of evidence can also affect a recommendation. For example, harms resulting from an intervention that outweigh benefits might lead to a recommendation that the intervention not be used even if it is effective in improving some outcomes.

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

The two Task Force recommendations --- educational and policy approaches in primary schools, and educational and policy approaches for adults in outdoor recreational or tourism settings --- are based on improving covering-up behaviors. These recommendations represent tested interventions that promote decreased ultraviolet (UV) exposure at the community level. They can be used for planning interventions to promote ultraviolet protection or to evaluate existing programs.

Several of the studies reviewed included multiple components that could not be evaluated separately. For example, a school-based program might involve components of policy, such as establishing school guidelines, in tandem with implementation of one-on-one didactic and interactive sessions regarding adapting sun-protective behaviors. Although sun-protective behaviors were increased by school-based programs, the specific effect could not be attributed to one specific intervention characteristic. In selecting and implementing interventions, the potential for an unintended increase in the duration and intensity of ultraviolet exposure must be considered. Also, communities should strive to develop comprehensive programs that include a wide range of activities suitable for their local resources, population characteristics, and settings.

The other interventions reviewed, for which evidence was insufficient to determine effectiveness, could also prove useful. They provide a broader taxonomy of interventions that deserve further testing and evaluation, and the documentation of research gaps in these reviews could potentially help to improve the next generation of research. Additional information on research gaps will be provided in the report in the American Journal of Preventive Medicine.

Choosing interventions that are well matched to local needs and capabilities, and then carefully implementing those interventions, are vital steps for increasing ultraviolet protection. Several factors can affect the attitudes, ability, and behaviors of a community regarding taking sun safety precautions. Some of the most important are program priorities, location of the community, and population. Establishing skin cancer prevention as a priority might be difficult because skin cancer is but one of many health topics, and for certain communities, may not be as high a priority as other cancers or diseases. Although it might be a higher priority in areas where ultraviolet radiation is more intense, even in areas with lower ultraviolet intensity, education about ultraviolet exposure during times of episodic exposure (e.g., during winter sports, when the sun comes out, and when traveling to higher ultraviolet intensity regions) could be helpful. Likewise, although skin cancer prevention might be a higher priority for populations at an increased risk (e.g., light-skinned, sun-sensitive), even darker-skinned or less

sun-sensitive persons need to take precautions when exposed to ultraviolet radiation. To meet local objectives, recommendations and other evidence provided in the Community Guide should be supplemented with local information such as skin cancer incidence, skin cancer mortality, prevalence of sun-protective behaviors, latitude, ultraviolet index, resource availability, administrative structures, and economic and social environments of organizations and practitioners.

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

IOM CARE NEED

Staying Healthy

IOM DOMAIN

Effectiveness
Patient-centeredness

IDENTIFYING INFORMATION AND AVAILABILITY

BIBLIOGRAPHIC SOURCE(S)

Saraiya M, Glanz K, Briss P, Nichols P, White C, Das D. Preventing skin cancer: findings of the Task Force on Community Preventive Services on Reducing Exposure to Ultraviolet Light. MMWR Recomm Rep 2003 Oct 17;52(RR-15):1-12. [28 references] PubMed

ADAPTATION

Not applicable: The guideline was not adapted from another source.

DATE RELEASED

2003 Oct 17

GUIDELINE DEVELOPER(S)

Task Force on Community Preventive Services - Independent Expert Panel

SOURCE(S) OF FUNDING

U.S. Department of Health and Human Services; Centers for Disease Control and Prevention (CDC)

GUIDELINE COMMITTEE

Task Force on Community Preventive Services on Reducing Exposure to Ultraviolet Light

COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE

Mona Saraiya, MD, Division of Cancer Prevention and Control, National Center for Chronic Disease Prevention and Health Promotion, Centers for Disease Control and Prevention (CDC); Karen Glanz, PhD, Cancer Research Center of Hawaii, University of Hawaii, Honolulu, Hawaii; Peter Briss, MD, Division of Prevention Research and Analytic Methods, Epidemiology Program Office, CDC, Atlanta, Georgia; Phyllis Nichols, MPH, Division of Prevention Research and Analytic Methods, Epidemiology Program Office, CDC, Atlanta, Georgia; Cornelia White, MPH, Division of Prevention Research and Analytic Methods, Epidemiology Program Office, CDC, Atlanta, Georgia; Debjani Das, MPH, Division of Cancer Prevention and Control, National Center for Chronic Disease Prevention and Health Promotion, CDC

FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

Not stated

GUIDELINE STATUS

This is the current release of the guideline.

GUIDELINE AVAILABILITY

Electronic copies: Available from the Community Guide Web site.

Print copies: Available from the Community Guide Branch, Centers for Disease Control and Prevention, 1600 Clifton Road, MS E-90, Atlanta, GA 30333.

AVAILABILITY OF COMPANION DOCUMENTS

The following general background articles are available:

- Briss PA, Brownson RC, Fielding JE, Zaza S. Developing and using the Guide to Community Preventive Services: Lessons learned about evidence-based public health. Annu Rev Public Health 2004; 25:281-302.
- Truman BI, Smith-Akin CK, Hinman AR, Gebbie KM, Brownson R, Novick LF, Lawrence RS, Pappaioanou M, Fielding J, Evans CA, Jr., Guerra F, Vogel-Taylor M, Mahan CS, Fullilove M, Zaza S, Task Force on Community Preventive Services. Developing the Guide to Community Preventive Services—overview and rationale. Am J Prev Med 2000 Jan;18(1 Suppl):18-26.
- Pappaioanou M, Evans CA, Jr. Development of the Guide to Community Preventive Services: A U.S. Public Health Service initiative. J Public Health Manag Pract 1998 Mar;4(2):48-54.
- Zaza S, Lawrence RS, Mahan CS, Fullilove M, Fleming D, Isham GJ, Pappaioanou M, Task Force on Community Preventive Services. Scope and

organization of the Guide to Community Preventive Services. Am J Prev Med 2000 Jan;18(1 Suppl):27-34.
- Briss PA, Zaza S, Pappaioanou M, Fielding J, Wright-de Aguero L, Truman BI, Hopkins DP, Mullen PD, Thompson RS, et al, and the Task Force on Community Preventive Services. Developing an evidence-based Guide to Community Preventive Services—methods. Am J Prev Med 2000 Jan;18(1 Suppl):35-43.
- Zaza S, Wright-de Aguero L, Briss PA, Truman BI, Hopkins DP, Hennessy MH, Sosin DM, Anderson L, Carande-Kulis VG, Teutsch SM, Pappaioanou M, Task Force on Community Preventive Services. Data collection instrument and procedure for systematic reviews in the Guide to Community Preventive Services. Am J Prev Med 2000 Jan:18(1 Suppl):44-74.
- Carande-Kulis VG, Maciosek MV, Briss PA, Teutsch SM, Zaza S, Truman BI, Messonier ML, Pappaioanou M, Harris.J.R., Fielding J, Task Force on Community Preventive Services. Methods for systematic reviews of economic evaluations for the Guide to Community Preventive Services. Am J Prev Med 2000 Jan;18(1 Suppl):75-91.
- Novick LF, Kelter A. The Guide to Community Preventive Services: a public health imperative. Am J Prev Med. 2001 Nov;21(4 Suppl):13-5.

Users can access the complete collection of companion documents at the Community Guide Web site.

Print copies: Available from the Community Guide Branch, Centers for Disease Control and Prevention, 1600 Clifton Road, MS E-90, Atlanta, GA 30333.

PATIENT RESOURCES

None available

NGC STATUS

This NGC summary was completed by ECRI on May 28, 2004. The information was verified by the guideline developer on July 9, 2004.

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