SUMMARY

Skin cancer is the most commonly diagnosed preventable cancer in the United States. Adults spend more than one-third of their day at the workplace and workers who spend a majority of that workday outdoors are at increased risk for skin cancer due exposure to ultraviolet radiation (UVR). The South Dakota Department of Health partnered with the South Dakota WorkWell Partnership to implement a multi-component approach to address sun safety policy, systems and environment change in worksites to increase sun safety behaviors and reduce the burden of skin cancer in outdoor workers.

PROGRAM DESCRIPTION

The Worksite UV Protection Model Policy for Outdoor Workers project is an occupational UV protection project that promoted UV protection policy, system, and environmental change in SD worksites to reduce the burden of skin cancer in outdoor workers. The project focused on supporting worksites with development and adoption of a worksite UV protection policy guided by the Worksite UV Protection Model Policy, as well as implementation of sun safety interventions to support the policy.

Two worksites were awarded funding to implement the project through a Request for Application process solicited by the SD DOH. The worksites included a city department whose outdoor worker employee base is comprised of multiple departments, including street, parks and recreation and aquatics, as well as a city aquatics center whose outdoor workers are largely comprised of lifeguards. Funding supported implementation of a project plan focused on development and implementation of a worksite UV protection policy and intervention strategies to support the policy, as well as purchase of sun safety equipment (e.g. sunscreen, wide-brimmed hats, etc.) to support employee sun safety practices.

The project period occurred from February 2016 through September 2016. Worksites developed and adopted a Worksite UV Protection Policy by June 1, 2016 and implementation of their project plan, including intervention strategies to support the policy occurred between June 2016 and September 2016. Approximately 450 employees were affected by the worksite UV protection project across sites.

METHODS

DOH collaborated with partners to implement a multi-component approach to address sun safety policy, environment, and systems changes in SD worksites. The project was informed by evidence-based resources and implemented through a series of approaches including training and education, technical assistance, and resources focused on occupational UV protection policies and practices. The project was guided by the Colorado Sun Safe at Work program, the Sun-Safe Worksite Guide, the Steps to Wellness: A Guide to Implementing the 2008 Physical Activity Guidelines for Americans, and the Worksite UV Protection Model Policy.

- **Training and Education**: Worksite wellness staff and employees received sun safety training and education to support development and implementation of the project, as well as adoption of the
recommendations included in the worksite UV protection policy. Worksites also provided education to employees through staff trainings, a cancer awareness health fair, and dissemination of educational resources.

- **Technical Assistance:** Technical assistance was provided to worksite project staff by DOH staff throughout the project period via e-mails and monthly conference calls. Worksites were guided on development and implementation of their project plan and worksite UV protection policy to ensure a comprehensive project which supported a sun safe worksite.

- **Resources:** Worksites utilized evidence-based resources to guide development and implementation of worksite UV protection policies and strategies. Educational resources were made available to support implementation of evidence-based strategies, including posters, fliers, and infographics focused on sun safety practices.

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**IMPLEMENTATION**

Worksites developed a project plan to support implementation of their worksite UV protection policy, which identified sun safety guidelines, as well as evidence-based strategies that support the policy. Strategies were implemented starting in May 2016 and included, but were not limited to environmental approaches to encourage sun protection (e.g. provision of sunscreen, lip balm, wide-brimmed hats, shade supports such as umbrellas and tents) to employees; educational approaches (e.g. employee training, newsletters, educational handouts); activities designed to influence knowledge, attitudes, or behavior of workers (e.g. role modeling of sun safety practices by worksite administration); and evaluation of implementation of the policy to ensure sustainable UV protection policy and practices.

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**EVALUATION**

Evaluation measures were established to assess the effectiveness of the worksite UV protection policy project to reduce the burden of skin in outdoor workers. Evaluation methods assessment of the following:

- **Worksite Assessment:** Evaluation of worksite assessments completed by project sites to assess their worksite’s current sun safety environment, policy and procedures.
- **Employee KAB Survey:** A pre/post survey was administered to outdoor workers affected by the worksite project was conducted to determine their state of knowledge, attitudes, and beliefs regarding sun safety practices.
- **Policy Adoption:** Worksites policies were evaluated to determine if a comprehensive worksite UV protection policy was adopted and modeled after guidelines included in the *Worksite UV Protection Model Policy*.
- **Project Plan & Intervention Strategies:** Worksites identified and implemented strategies to support adoption of their worksite UV protection policy. Strategies were evaluated to determine if an improvement in outdoor workers sun safety practices was observed.
- **Project Report:** Worksites submitted a project report upon completion of the project where they addressed challenges or barriers to implementation, successes from the project, plans for sustaining sun safe worksite, and additional feedback regarding the project.

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**RESULTS**

The worksites successfully adopted worksite UV protection policies to support occupational sun safety practices to prevent skin cancer in outdoor workers. Worksites demonstrated an interest in promoting a
sun safe worksite through implementation of evidence-based strategies, including the provision of sun safety equipment (e.g. wide-brimmed hats, sunscreen, and umbrellas to outdoor workers); educational approaches through employee trainings, newsletters, educational resources, and health fairs; and activities designed to influence knowledge, attitudes, or behavior of workers including role modeling of sun safety behaviors by administrative staff and the provision of incentives for workers practicing sun safety.

Self-reported pre and post employee KAB survey data indicated outdoors workers affected by project and completed the survey were primarily young white males under the age of 24 and between the ages of 45-55. A statistically significant improvement was observed in the availability of shade for outdoor workers via shade structures and employee sun safety practices at work when working outside, including wearing a wide-brimmed hat, sunglasses, increasing the time spent in the shade, and a decrease in sunburns at work. Statistically significant improvements in skin cancer knowledge and attitudes were also reported. The project helped promote a sun safe worksite and encourage improvement in employee sun safety practices when outside during the summer. Integration of sun safety policies and practices into worksites are strategies shown to influence sun safety practices in occupational settings through a multi-component approach.

**SUCCESSES AND BARRIERS**

Overall, improvements in worksite and employee sun safety practices was observed, however worksites experienced successes and barriers to implementation of the project.

*Successes:* The project was successful to support worksites to develop a worksite UV protection policy that elicits policy, systems, and environment changes that promote a sun safe worksite. As a result of the project, both sites observed an uptake of sun safety equipment, specifically wide-brimmed hats. In addition, both sites budgeted for sun safety equipment (e.g. wide-brimmed hats, sunscreen, shade structures, and sunglasses) in their next fiscal year to support their employees to practice sun safety. Improvements in the promotion of sun safety education and promotion of the UV index were achieved. Reinforcement and role modeling of sun safety practices by worksite management proved to be an integral component to elicit improvements in employee suns safety practices. The provision of technical assistance proved valuable to support worksites to develop and implement the project.

*Barriers:* Project sites developed and adopted a worksite UV protection policy that recommends sun safety guidelines, however challenges with enforcement of a recommended policy may have reduced improvements in employee sun safety practices. Worksite employees were not receptive to the new policy and practices when the project was initiated, however over time they recognized the value of the project. Older workers were also less prone to change their sun safety practices, specifically sunscreen and lip balm use. Reinforcement and role modeling of sun safety practices by worksite management was not always in place, therefore employees may not have felt the need to practice sun safety. Dissemination of the pre/post employee KAB survey presented also barriers to evaluating the effect of the project on employee knowledge, attitudes, and behaviors and capturing all eligible employee responses.

**CONCLUSIONS AND RECOMMENDATIONS**

The worksite UV protection policy project successfully supported SD worksites to promote a sun safe worksite through implementation of policy, system, and environmental approaches. Outcomes achieved by worksites as a result of the project established a baseline for continued support of a sun safety
practices for outdoor workers. Strategies implemented to support adoption of worksite UV protection policies proved moderately effective in improving employee sun safety practices, however improvements did occur. Specifically, reinforcement and role modeling of sun safety practices by worksite administration was instrumental in improvements in employee sun safety practices. Efforts to enhance the project to better support worksites to implement a worksite UV protection policy and practices, including education regarding employee engagement and policy reinforcement, and establishment of evaluation measures, can assist worksites to establish a comprehensive project.

Recommendations for a comprehensive worksite UV protection project include:

- **Provide sun safety training to worksite management and employees.** Educating staff and employees on skin cancer prevention reinforces why worksites have chosen to adopt a sun safety policy to support a healthy worksite and helps establish a baseline understanding of the value of a worksite UV protection policy and sun safety practices.

- **Develop policy which requires employees to practice sun safety practices.** To reinforce uptake of employee sun safety practices, development of a comprehensive, required policy, may solicit an increase in sun safety practices.

- **Reinforcement and role modeling of worksite management.** Worksites noted the key to improvements in employee sun safety practices was the reinforcement or role modeling of sun safety practices by worksite management.

- **Implement policy, system, and environmental changes to support and engage employees to practice sun safety.** Changes include, but are not limited to; making shade available to outdoor workers at job sites and outdoor break areas, including providing a canopy, umbrella, tent, or shade structure; make personal sun safety equipment readily accessible, and engage employees in ongoing communication to promote sun safety practices.

- **Provide technical assistance and resources to worksites.** Providing technical assistance and resources to worksites helps guide development and implementation of comprehensive worksite UV protection policies and practices to achieve measurable outcomes. The availability of a variety of resources provides worksites with the opportunity to tailor the project to their employee base.

- **Develop a comprehensive project plan.** A comprehensive project plan can help guide worksites with development, implementation and evaluation of goals, objectives, and strategies identified to support adoption of worksite UV protection policies and practices. Identify evaluation measures support worksites to assess the effectiveness of the strategies and make improvements where necessary to achieve successful outcomes.

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