

## Worksite UV Protection Policy Project

### 2017 Project Findings: Britton City Pool

#### Program Description

Integration of sun safety policies and practices into worksites are proven strategies to influence sun safety practices in occupational settings. The Worksite UV Protection Policy for Outdoor Workers Project is an occupational UV (ultraviolet) protection effort that promoted UV protection policy, system, and environmental changes to reduce the burden of skin cancer for outdoor workers. The South Dakota Department of Health (SD DOH) partnered with the South Dakota WorkWell Partnership to implement the project focused on supporting worksites with adoption of a worksite UV protection policy guided by the [Worksite UV Protection Model Policy](#)<sup>i</sup> as well as implementation of sun safety interventions to support adoption of the policy. A preliminary assessment of SD worksites in 2016 identified a lack of sun safety policies in place and reinforced the value for implementation of the project. The project was informed by evidence-based resources and implemented through using a multi-component approach. The project was implemented to support execution of the [South Dakota Cancer Plan 2015-2020](#), which includes a priority to reduce ultraviolet radiation exposure.

The Britton City Pool promoted a sun safe worksite through adoption of a worksite UV protection policy and implementation of strategies to support the policy during the summer of 2017. Two worksites implemented the project in 2016. SD worksites whose employee base includes outdoor workers were eligible to apply for the project. Worksites received funding and technical assistance to support implementation of their project plan. The project period for the Britton City Pool occurred between April 2017 and September 2017. Policy adoption and implementation of their project plan, including intervention strategies to support the policy, occurred between June 2017 and August 2017, when the pool was open and staffed. Approximately 18 employees, including the pool manager, were impacted by the worksite UV protection project.

#### Multi-Component Approach

The SD DOH collaborated with the Britton City Pool to implement a multi-component approach to address sun safety policy, system, and environment changes. The approach included training and education, technical assistance, and evidence-based resources to implement a project plan that included strategies to support worksite wellness. The project was guided by the *Worksite UV Protection Model Policy*<sup>i</sup>, the *Colorado Sun Safe at Work program*<sup>ii</sup>, the *Sun-Safe Worksite Guide*<sup>iii</sup>, and the *Steps to Wellness: A Guide to Implementing the 2008 Physical Activity Guidelines for Americans*<sup>iv</sup>.

#### Policy Adoption

The worksite was required to adopt a comprehensive worksite UV protection policy, modeled after guidelines included in the *Worksite UV Protection Model Policy*<sup>i</sup>.

#### Project Plan & Intervention Strategies

The Britton City Pool developed a project plan to support implementation of their policy, which identified sun safety guidelines, as well as evidence-based strategies that support the policy. Strategies identified were designed to create policy, system, and environment changes and provide opportunities not already offered to employees related to UV protection. Strategies included 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, 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.

### **Training and Education**

The Britton City Pool Manager received sun safety training and education from DOH and partners modeled after resources included in the *Sun Safe Colorado at Work* program, the *Sun-Safe Worksite Guide*, and the *Steps to Wellness: A Guide to Implementing the 2008 Physical Activity Guidelines for Americans*. Three webinars were conducted, focused on the following:

1. Introduction to the project, skin cancer risks, and strategies to ensure worksite capacity to implement wellness initiatives focused on the UV project.
2. Policy development and implementation.
3. Employee engagement in wellness conducted by a partner organization, Health Management Partners.

### **Technical Assistance and Resources**

DOH staff conducted an in-person visit, monthly conference calls, and provided support via email to the Britton City Pool to help guide development and implementation of their project plan and worksite UV protection policy. DOH staff helped ensure progress with implementation of the project plan and addressed strategies for success and barriers to implementation. Educational resources were also made available to support implementation of evidence-based strategies.

## **Evaluation and Results**

Evaluation measures were established to assess the effectiveness of the worksite UV protection policy project to reduce the burden of skin in outdoor workers and answer the following questions:

- *What is the worksites current sun safety environment, policy, and procedures?*
- *Do outdoor workers knowledge, attitudes, and beliefs about sun safety change if a worksite UV protection policy is adopted?*
- *Did the worksite adopt a comprehensive worksite UV protection policy?*
- *Did the worksite implement evidence-based strategies that supported adoption of sun safety practices in outdoor workers?*

### **Worksite Assessment**

The Britton City Pool manager completed a baseline worksite assessment adapted from the *Sun-Safe Worksite Guide* to assess the worksite's current sun safety environment, policy, and procedures. Assessment results informed development and implementation of a comprehensive worksite UV protection policy and sun safety strategies which addressed strengths and gaps in the current worksite sun safety environment, policy, and procedures.

### **Policy Adoption**

The Britton City Pool developed and adopted a worksite UV protection policy that encouraged adoption of the sun safety guidelines outlined in their policy by pool staff. The policy was approved by the city council.

### **Project Plan & Intervention Strategies**

The worksite identified and implemented strategies to support adoption of their worksite UV protection policy. The pool identified five guidelines and supporting intervention strategies to implement that supported the project scope, including encouraging use of SPF 30 or higher sunscreen and lip balm, provision of sun protection training to staff and encouragement of sun safety practices while on the job, provision of shade for employees during duty and break times, provision of person sun safety equipment that included SPF 30 sunscreen and lip balm and sun protective hats, as well as

communication of the Britton City Pool UV Protection Policy guidelines to employees. Staff training was facilitated through monthly in-service sessions and a local healthcare provider to discuss sun safety. In addition, communication and reinforcement of the policy to employees was disseminated through educational posters and employee notes, monthly in-service training sessions, and daily posting of the UV index for all employees.

### **Project Report**

Outcomes reported by the Britton City Pool included challenges with motivating pool staff to practice sun safety behaviors attributed to their age and personalities. However, the Pool Manager addressed this barrier by keeping a positive attitude when providing education and reminders to practice sun safety. In addition, a challenge was held during the month of July with staff, which included posting of a weekly trivia question around the pool focused on sun safety information.

**Figure 1: Burn Board**

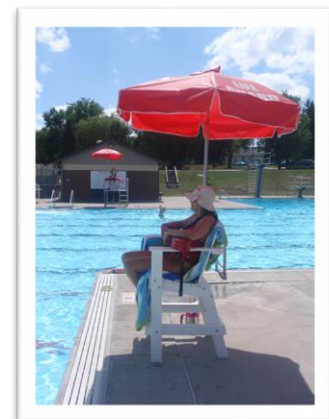


A burn board (Figure 1) was developed to foster healthy competition among staff to see who did not receive sunburns. No sunburns were reported in June and two sunburns were reported during July. An increase in sun protective equipment and shade structures was also reported, including umbrellas, hats, and visors by staff. Staff used a gallon and a quart of sunscreen, as well their own sunscreen. In addition, sun safety education was provided to staff on a weekly basis through posted educational posters, in-service trainings, a guest speaker from a local healthcare center, and individual employee baskets.

Evaluation measures tracked for the project included tracking of the UV Index daily and posting it on a whiteboard to make it visible to staff and pool patrons, as well as recording it in the pool calendar daily. Lifeguards kept track of when they wore sunscreen on their shifts during July 2017, which was then compared to the total number of sunscreen applications. Overall, sunscreen use increased; two lifeguards wore sunscreen 100% of the time, one wore it 75% of the time, three wore sunscreen 30-40% of the time, and four wore it less than 30% of their shifts.

High umbrella use was reported on days with a UV Index reading of 8 and higher. Umbrellas were placed in the concession area and pool deck daily for shelter during break times. Future plans indicated from the project include the ongoing provision of sun safety resources to staff, including sunscreen, hats, visors, and umbrellas provided by the pool. The pool will continue to encourage sun safety behaviors of pool staff, as well as track the UV Index daily to inform the staff and pool visitors. The burn board was also successful and will be implemented in the future.

**Figure 2: Umbrella Use**



### **Employee KAB Survey**

An evaluation of outdoor workers affected by the worksite project was conducted to determine their knowledge, attitudes, and beliefs regarding sun safety practices. A paper survey was administered to worksite employees at employee orientation in May 2017, prior to implementation of intervention strategies, and at the end of the project period in August 2017. The survey was developed using validated survey questions extrapolated from surveys which focused on sun safety knowledge, attitudes, and behaviors. Survey questions were true/false, Likert scale, multiple choice, yes/no, and open-ended. The survey was analyzed using an Independent T-Test, comparing the cohorts who answered the pre-

and post-test survey. A total of 17 respondents completed the pre-test and a total of 15 completed the post-test as result of attrition of two staff.

### Demographics

All respondents were age 24 or younger. Respondents were 88.2% white, and 94.1% had less than a high school degree. Respondents were 58.8% female and 41.2% male. Respondents were largely lifeguards, with one concession stand worker, one bath house attendant, and two park and recreation staff. None of the respondents indicated they have ever been diagnosed with skin cancer.

### Sun Exposure Attitudes and Behavior

While not statistically significant, respondents indicated slight improvements in levels of disagreement from disagree to strongly disagree regarding sun safety practices, including *benefits of a sun tan outweigh the risks* and *a suntan is useful to prevent peeling*. Level of agreement improved from disagree to agree regarding, *I am susceptible to skin cancer* and *using sun protection reduces your risk of skin cancer*. A slight decrease in agreement was indicated regarding the *benefits of using sun protective equipment outweigh the inconveniences*. In addition, respondents in general indicated they did not use an indoor tanning device in the past 12 months.

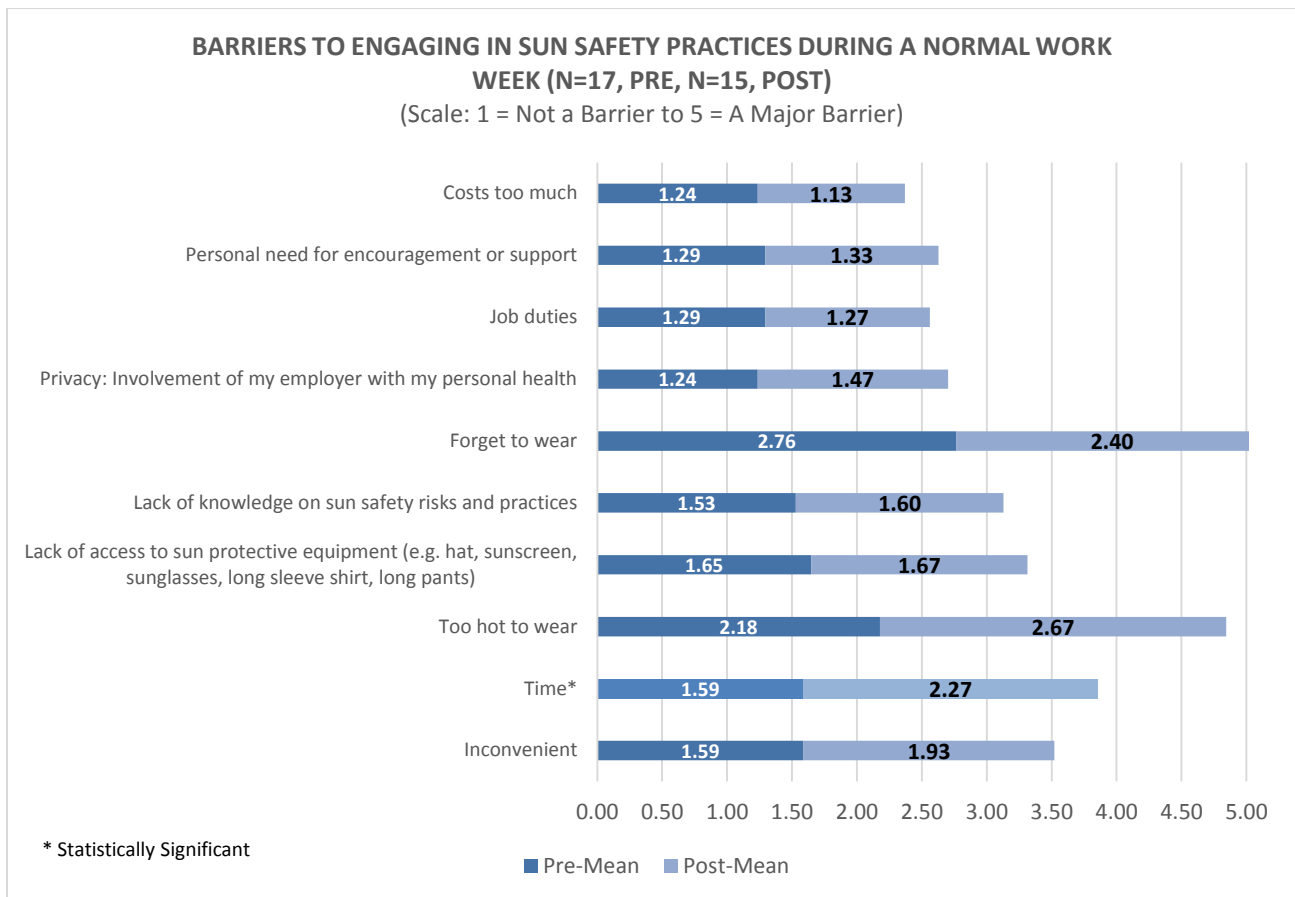
### Sun Safety Practices at Work

Workers' sun safety practices at work when outside during the summer improved for some practices; however, a decrease in some sun safety practices was also reported.

- Respondents indicated they spent on average three hours outside per day between 10am and 4pm on work days, however the hours reported decreased from pre to post test ( $Mean = 4.5 - 3.5$ ). No change was reported by respondents regarding the number of hours they spend outside per day between 10am and 4pm when they are not at work, indicating two hours on average.
- Statistically significant improvements in sun safety practices were reported, *wearing a wide brimmed hat with at least 4 inches of surrounding brim* from "Sometimes" ( $3.7 \pm 1.03$ ) to "Always" ( $1.0 \pm .00$ )  $t(30) = 10.35, P < .000$ , and *wearing sunglasses when working outdoors during summer months* from "Sometimes" ( $3.0 \pm 1.11$ ) to "Often" ( $2.0 \pm 1.41$ )  $t(16) = 11.040, P < .033$ . Improvements by gender were highest for females who wore a wide-brimmed hat and males who wore sunglasses.
- In addition, a statistically significant decrease was indicated by respondents regarding *how often they wear long pants when working outdoors during the summer months* from "Rarely" ( $3.58 \pm .00$ ) to "Never" ( $4.46 \pm .63$ )  $t(30) = -2.096, P < .007$ .
- Respondents also reported some other changes in their sun safety practices at work. However, they were not statistically significant.
  - Respondents "Often" stay in the shade or under an umbrella when working outdoors during the summer months ( $Mean = 3.0 - 2.46$ ). This practice slightly improved from pre to post survey.
  - A slight improvement was reported in respondents wearing long pants "Sometimes" when outdoors during the summer months ( $Mean = 2.66 - 2.35$ ).
  - A slight improvement was reported in use of SPF 30 or higher sunscreen when working outdoors during the summer months ( $Mean = 2.94$  (Sometimes) -  $2.26$  (Often)), and how often they wore SPF 30 or higher lip balm when working outdoors during the summer months ( $Mean = 3.52$  (Sometimes) -  $3.26$  (Often)).
  - A decrease was reported in how often respondents wore long sleeve shirts when working outdoors during the summer months from "Rarely" to "Never" ( $Mean = 3.88 - 4.26$ ).
- Respondents were also asked to rank on a scale of 1 (not a barrier at all) to 5 (a major barrier) barriers to engaging in sun safety practices during a normal week during work hours (Figure 4).

- Statistically significant increases in barriers were reported from pre to post survey by respondents regarding “Time”, from 2 (1.58 ± .93) to 3 (2.26 ± .79)  $t(30) = -2.185, P < .037$ .
- While not statistically significant, respondents reported a slight increase in the mean for barriers to engaging in sun safety practices during work hours, indicated in Figure 3 below. However, these barriers were largely indicated as not a barrier at all. Moreover, respondents reported that “Too hot to wear” on a scale of 2 as barrier.

Figure 3: Barriers to Sun Safety Practices



Worksite Sun Safety Environment

- Respondents indicated slight improvement on a scale of 1 (low support) to 5 (high support) regarding workplace support for promoting sun safety practices and environment during the workday (Mean = 4.52 – 4.86).
- Findings indicate that the worksite sun safety environment slightly improved to support outdoor workers sun safety practices.
  - There was a slight improvement in “Some shade (natural shade from trees or shade from the side of buildings)” is available when workers are working outdoors (Mean = 2.88 – 2.92), as well as statistically significant improvements in shade available for workers when they take a coffee or lunch break outdoors, from “Some Shade” to “Provided shade” (Mean = 2.76 – 3.0).
  - Outdoor workers got sunburned at work slightly less (Mean = 2.94 - 2.28). Workers overall indicated getting burned between one to two times on average.

## CONCLUSIONS & RECOMMENDATIONS

The worksite UV protection policy project successfully supported the Britton City Pool to promote a sun safe worksite through implementation of policy, system, and environmental approaches. Strategies implemented to support adoption of a worksite UV protection policy showed small improvements in uptake of sun protective equipment and certain sun safety practices. While not statistically significant, employees did show improvements in their use of SPF 30 or higher sunscreen. The uptake of wide brimmed hats and sunglasses by outdoor workers showed a statistically significant improvement. Barriers to staff engaging in sun safety practices during work hours exist; however, they do not prevent staff from engaging in sun safety practices overall. The heat presented a barrier to staff wearing sun protective equipment and engaging in sun safety practices. Slight improvements in staff remembering to wear sun protective equipment, job duties that supported sun safety practices, and cost of sun protective equipment were reported. However, time was a statistically significant barrier to staff engaging in sun safety practices during work hours.

Staff attitudes and behavior regarding sun exposure improved, indicating that they understood the risk of skin cancer associated with sun exposure. While staff agreed that the benefits of using sun protective equipment outweigh the inconveniences, a decrease in the level of agreement was noted. Further education may be warranted to reinforce the value of sun safety practices. In addition, staff use of indoor tanning devices were largely not indicated. This is an important outcome to note, since indoor tanning bed use is high among youth in South Dakota. The availability of shade increased for staff while working, especially when they were on break. Moreover, a reduction over the past 12 months was reported for staff sunburns.

Notable outcomes from the Britton City Pool to inform future projects include:

- **Provide ongoing education to employees.** Educating staff through an ongoing basis helps to reinforce the policy guidelines and value of sun safety practices.
- **Reinforcement and role modeling of worksite management.** Reinforcement by worksite managers is an important piece to promoting sun safety practices.
- **Identify strategies unique to worksite to engage staff.** Regardless of the size of a worksite, improvements in sun safety practices can occur.
- **Track the UV Index.** Adopt a strategy to track the UV Index daily to inform staff and the public, as appropriate. This provides an opportunity to educate on sun safety practices unique to location.
- **Implement policy, system, and environmental changes regarding sun safety.** Changes include 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.
- **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.
- **Access to resources and technical assistance.** Provide access to resources and technical assistance to help project sites develop a quality policy and implement a comprehensive project.
- **Conduct evaluation with project sites.** Identify evaluation measures to assess the effectiveness of the strategies and make improvements where necessary. Establish follow-up evaluation measures to track implementation following completion of the project.

<sup>i</sup>South Dakota Department of Health, *Worksite UV Protection Model Policy*. Retrieved from <http://goodandhealthysd.org/workplaces/policies/>

<sup>ii</sup>Klein Buendel. *Sun Safe Colorado at Work*. Retrieved from <http://work.sunsafecolorado.org/>

<sup>iii</sup>Klein Buendel. *Sun-Safe Worksite Guide*. Retrieved from <http://sdhw.info/pdfs/WorksiteGuide02.pdf>

<sup>iv</sup>Centers for Disease Control and Prevention. *Steps to Wellness: A Guide to Implementing the 2008 Physical Activity Guidelines for Americans in the Workplace*. Atlanta: U.S. Department of Health and Human Services; 2012.