Alberta’s Skin Cancer Prevention Framework

2018-2028
Acknowledgments

This document has been prepared by the Alberta Cancer Prevention Legacy Fund on behalf of the Provincial Approach to Reducing the Incidence of Skin Cancer Steering Committee. The ACPLF is committed to:

» Delivering on a visionary, engaging strategy that takes a settings-based approach to addressing social determinants and enhancing prevention and screening
» Implementing innovative, scalable initiatives that reduce the risk of cancer and chronic diseases while promoting the health of Albertans more broadly and reducing unjust and avoidable differences in health outcomes
» Planning upfront with stakeholders and sharing information and findings effectively to support the transition of successful projects into sustainable operations
» Converting resources into results efficiently

The following organizations were instrumental in the development of Alberta’s Skin Cancer Prevention Framework 2018-2028 and are committed to its implementation:

» Alberta Health, Health and Wellness Promotion
» Alberta Health Services:
  ▪ Alberta Cancer Prevention Legacy Fund
  ▪ CancerControl Alberta
  ▪ Population, Public and Indigenous Health
» Alberta Medical Association
» Alberta Society of Dermatologists
» Alberta Society of Melanoma
» Canadian Cancer Society, AB/NWT
» Canadian Skin Cancer Foundation
» Save Your Skin Foundation

Although skin cancer prevention efforts have made significant advances in our province, this is Alberta’s first integrated approach to impact skin cancer incidence and mortality. Working together we all have an opportunity to boost our capacity; to share knowledge, experience and resources; and to accelerate progress on skin cancer prevention all across Alberta.

Alberta’s Skin Cancer Prevention Framework provides strategic direction to guide an impactful and sustainable response. Essentially, it is a roadmap for Working Together, Taking Action, and Making a Difference.

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Executive Summary
Executive Summary

Skin cancer accounts for about one in three cancers in Alberta. The sheer number of cases results in a significant impact on people and the health system, yet it is one of the most preventable cancers.

An estimated 65 to 90% of skin cancers are associated with solar and artificial ultraviolet radiation (UVR) exposure, so reducing the incidence is well within our reach. But this will require a coordinated effort and action at multiple levels, notably municipal policy development; systems strengthening; enhancing the supportiveness of community environments (inclusive of workplaces, recreation facilities, schools and primary care); and increasing knowledge, attitudes and preventive behaviours of individual Albertans regarding UVR exposure. Alberta’s Skin Cancer Prevention Framework 2018-2028 was collaboratively developed in response to this opportunity and aims to decrease skin cancer incidence in Alberta by providing a platform for partnerships and focused action based on proven strategies.

The Framework is organized into four inter-related sections: Defining the Issue, Working Together, Taking Action and Making a Difference. Each section promotes action at the systems, settings and individual level.

The Framework describes what we as skin cancer prevention partners are going to do and how we are going to do it, organized around four strategic directions.
Alberta’s Skin Cancer Prevention Framework

Inform Decision Making

Build Capacity for Action

Strengthen Supportive Environments

Improve Knowledge, Attitudes and Behaviours

Taking Action

Partnering to implement proven strategies at all levels

Making a Difference by 2028

- Partnerships at multiple levels are in place to support sustained action on skin cancer prevention
- 100% of Alberta Cities have strong-to-moderate shade policies
- Double the number of Alberta workplaces and communities reporting increases in supportiveness of their environments for skin cancer prevention

Working Together

A provincial approach catalyzing coordinated action by key stakeholders at the systems – settings – individual level

- Strong shade and UVR protection policies and environmental approaches in place
- System for monitoring and evaluation established
- Increased capacity to monitor trends
- Strengthened translation of data and evidence
- Activities for at risk groups implemented
- Consistent messaging at multiple levels developed
- Community of practice established
- Increased community capacity
Strategic Direction 1: Inform Decision-making

<table>
<thead>
<tr>
<th>What We Will Do</th>
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<tbody>
<tr>
<td>» Increase capacity to monitor trends in the burden of skin cancer, the supportiveness of community, school and workplace environments, and individual UVR protective behaviours in Alberta</td>
</tr>
<tr>
<td>» Strengthen translation of data and evidence to inform effective programs and policies related to skin cancer prevention</td>
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Strategic Direction 2: Build Capacity for Action

<table>
<thead>
<tr>
<th>What We Will Do</th>
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</thead>
<tbody>
<tr>
<td>» Build a community of practice to create and strengthen partnerships for UVR safety and skin cancer prevention</td>
</tr>
<tr>
<td>» Increase capacity of key professional groups to play a strategic role in skin cancer prevention</td>
</tr>
<tr>
<td>» Increase community capacity to sustain effective UVR safety protective actions</td>
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</table>

Strategic Direction 3: Strengthen Supportive Environments

<table>
<thead>
<tr>
<th>What We Will Do</th>
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<tbody>
<tr>
<td>» Strengthen municipal policies that enable UVR protection</td>
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<tr>
<td>» Increase environmental approaches to encourage UVR protection</td>
</tr>
<tr>
<td>» Partner with local municipalities to implement a multi-agency strategic approach</td>
</tr>
<tr>
<td>» Facilitate the evaluation of UVR protective municipal policies and programs</td>
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Strategic Direction 4: Improve Knowledge, Attitudes and Behaviours of Individuals

<table>
<thead>
<tr>
<th>What We Will Do</th>
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</thead>
<tbody>
<tr>
<td>» Develop and implement targeted activities for at-risk groups</td>
</tr>
<tr>
<td>» Develop and implement consistent messaging provincially and locally</td>
</tr>
<tr>
<td>» Facilitate evaluation of individual-level sun safety indicators</td>
</tr>
</tbody>
</table>
The Making a Difference section describes how we will know what impact we are having. Logic models are included for each strategic priority and objective. They articulate short and long-term outcomes, the partnerships required and the following 10-year targets set at multiple levels:

<table>
<thead>
<tr>
<th>Multi-Level 10-Year Targets</th>
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<tr>
<td><strong>Municipal Policy</strong></td>
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<tr>
<td><strong>System</strong></td>
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<tr>
<td><strong>Settings</strong></td>
</tr>
<tr>
<td><strong>Individual</strong></td>
</tr>
</tbody>
</table>

With adequate support and a unified approach, comprehensive, community-wide efforts can have a big impact on skin cancer incidence [1]. Alberta’s Skin Cancer Prevention Framework 2018-2028 outlines the context and the evidence-base for action in Alberta, describes how we will work together and specifically what action we will take, and shows how we will know how much difference we are making.

With sustained commitment and coordination across diverse partners and sectors, significant reductions in skin cancer incidence in Alberta can be realized.

* A review of shade policies in communities with a population of less than 10,000 (most often rural communities) is required and will be carried out by the working groups. Once a baseline is established, the working groups can set a meaningful target for achieving strong shade policies in smaller communities across Alberta.
The Approach
The Approach

Principles

The Alberta’s Skin Cancer Prevention Framework (“the Framework”) strategic directions and action strategies are guided by the following principles:

**Engagement:** involving and consulting stakeholders in the planning, design and implementation of the framework.

**Participation:** creating opportunities for stakeholders (including those affected by the framework and resulting initiatives) to take an active part in decision making.

**Evidence-based Practice:** drawing on evidence from multiple sources and applying it to our work.

**Equity:** creating equal opportunities for good health for all and reducing avoidable and unjust differences in skin cancer rates among populations.

**Sustainability:** ensuring outcomes can be maintained over the long term.

**Evaluation and Continuous Improvement:** establishing and ensuring the use of robust evaluation mechanisms to monitor and track success.
Conceptual Model

Impacting complex health problems such as cancer requires a population health approach. This approach acts to unify the entire spectrum of health system interventions to improve the health of whole populations while reducing health inequities among groups.

Embedded within the population health approach is the social ecological model, which fosters consideration of the complex interplay between individuals and their environments (Figure 1):

- The policy level describes the authoritative decisions made by municipal, provincial and federal governing bodies that can influence all other levels.
- The community level includes a collective network of organizations, businesses and institutions.
- The organizational level considers rules and policies at a settings level that guide and support behaviour.
- The interpersonal level includes the external influences of families, friends, physicians and key opinion leaders.
- The individual level includes internal determinants of behaviour such as knowledge, attitudes, beliefs and skills.

![Figure 1. The Social Ecological Model. As adapted by: Colorectal Cancer Control Program (CRCCP) Centers for Disease Control and Prevention Website at: https://www.cdc.gov/cancer/crccp/images/sem.gif](https://www.cdc.gov/cancer/crccp/images/sem.gif)
The multilevel relationships amongst these factors impact the likelihood that populations and individuals will develop skin cancer [2]. For example, if Alberta has strong artificial tanning legislation, and the harm associated with artificial tanning is communicated through the media and community organizations, individuals are more likely to reduce the use of artificial tanning. Changing individual sun safe behaviours requires action at all levels of influence.

Some groups of Albertans are at greater risk of skin cancer than others for reasons that are unfair, unjust and unavoidable. These differences do not occur randomly, but are socially determined by circumstances that are largely out of an individual's control. These circumstances unfairly disadvantage certain individuals or groups and increase their risk of preventable cancers [3].

For example, skin cancer can be an employment-related disease associated with long-term exposure to the sun. Those who seek seasonal outdoor work are often men, low-income earners, those with low post-secondary education and recent immigrants to Canada.

This conceptual model provides a lens for understanding how individual decision-making is influenced by multiple factors. Implementation of ultraviolet radiation (UVR) protection activities at all five levels of the model maximizes the synergies between interventions and leads to the creation of an equitable and sustainable impact for all Albertans.
Scope

Alberta’s Skin Cancer Prevention Framework is designed to build on ongoing prevention activities in Alberta. It takes a multi-level and multi-sectorial approach that goes beyond the health care system with targeted interventions for priority populations.

The Framework is focused on the primary prevention of skin cancer (preventing skin cancer from happening in the first place). Secondary prevention (detecting and treating skin cancer before it becomes symptomatic) for high-risk populations and opportunistic skin cancer screening is included. Population-based skin cancer screening has been excluded. While there is insufficient evidence to support the implementation of a population-based skin cancer screening program [4-6], there is promising evidence to suggest that building the capacity of professionals outside of health care who routinely see large amounts of skin (e.g., massage therapists, estheticians, hair dressers/barbers, fitness trainers, tattoo artists) to screen opportunistically for abnormal skin conditions could improve early detection and positive health outcomes [4].

Priority Settings

The physical and social environments where Albertans live, work, learn and play influence UVR exposure and protection. They provide an opportunity for focused skin cancer prevention efforts that enable healthy choices and UVR protective behaviours.

The following settings have been prioritized for action within the Framework based on best practice evidence [7-10]:

- **Outdoor occupational settings**
- **Outdoor recreational and tourism settings**
- **Primary and middle school settings**
- **Childcare centres**
At-risk Individuals

Evidence-based guidelines recommend a focus on the following individuals who are at a higher-risk of skin cancer:

» Children
» People who tend to burn rather than tan
» People with lighter skin, fair or red hair, blue or green eyes, or who have many freckles or moles
» People who are immunosuppressed
» People with a family history of skin cancer
» Outdoor workers
» Individuals with outdoor hobbies
» Individuals who take vacations in sunny countries

Alignment and Evidence-Base

Alberta’s Skin Cancer Prevention Framework was developed through a strong collaboration with stakeholders representing provincial government, the health sector, the wider community and the non-profit sector. It was informed by a review of literature, environmental scans of current initiatives and best practices, and key informant interviews with subject matter experts.

Notably, the Framework builds on the strategic directions outlined in the Canadian Strategy for Cancer Control – Strategic Directions for the Primary Prevention of Skin Cancer in Canada (2006) [11]. The Canadian Strategic Directions are based on the Ottawa Charter for Health Promotion and the Nutbeam framework as it relates to skin cancer control [12].

The levels for health promotion action are:

» Build healthy public policy
» Create supportive environments
» Strengthen community capacity
» Create supportive environments
» Change attitudes, knowledge and behaviours and develop individual skills

Inspiration for the Framework was also taken from the State of Victoria (Australia), Department of Health – Skin Cancer Prevention Framework 2013–2017 [13].
Section 1:

Defining the Issue
Alberta’s Skin Cancer Prevention Framework is organized into four inter-related sections: Defining the Issue, Working Together, Taking Action and Making a Difference. Each section promotes action at the systems, settings and individual levels.

Defining the Issue

Strategic actions within the Framework are based upon the answers to five key questions:

1. What are the incidence rates of skin cancers (melanoma and non-melanoma) and are they improving?
2. What is the economic impact of skin cancer?
3. What is the current state of skin cancer risk factors in children and adults?
4. What is the current state of provincial and municipal UVR protection policy in Alberta?
5. What interventions have been proven to work best for skin cancer prevention (i.e., best-practice, evidence)?
Incidence

Breast, lung, prostate and colorectal cancers were the most frequently reported cancers in 2017 in Alberta, while melanoma (skin cancer) was 7th and accounted for 4% of all cancers reported.

![Figure 2. New cancers by site, males and females combined, Alberta, 2017 [14].]

Cases of non-melanoma skin cancers are inconsistently reported to the Alberta Cancer Registry. Non-melanoma skin cancers are difficult to register because they may be diagnosed, treated or both in a variety of settings that do not report to the Registry.

When reported cases of melanoma are combined with estimated cases of non-melanoma skin cancers, skin cancer is thought to comprise approximately 33% of all cancers in Alberta [15].

Melanoma, the most serious form of skin cancer is projected to continue to increase among both males and females. It is expected that new cases will rise to 387 for females and 438 cases for males by the year 2020 (Figures 3 and 4) [14]. Cumulative UVR exposure throughout life and sunburns add to the risk. The incidence of melanoma increases for both men and women after the age of 35 and is higher for men than women after about age 50 [15]. Non-melanoma skin cancer incidence is also expected to rise due to similar risk factors.
Incidence of Melanoma for Females 1991-2020

Figure 3. Actual and projected number of new cases and Age-Standardized Incidence Rates for Melanoma 1991-2020 for females [14].

Incidence of Melanoma for Males 1991-2020

Figure 4. Actual and projected number of new cases and Age-Standardized Incidence Rates for Melanoma 1991-2020 for males [14].
Economic Impact

According to recent estimates, the economic burden of skin cancer in Canada is $532 million per year [16]. The mortality of skin cancer is not as high as some other cancers, but due to the high incidence of skin cancers, the treatment related costs are substantial. The majority of the costs are attributable to melanoma (83.4%), with the balance distributed between basal cell (9.1%) and squamous cell (7.5%) carcinomas, also known as non-melanoma skin cancers. In Alberta, a 2010 report determined that the direct and indirect costs of skin cancers were approximately $46 million in 2004 and will increase to about $84 million per year by 2031 [16]. In addition, as skin cancer incidence rates are high among young adults, significant years of potential life lost and lost productivity are a major concern [17].

Skin cancer prevention programs have been shown to be cost effective. Economic evaluation of programs from Australia and the United States indicate that for every $1 invested, approximately $2 to $4 of health care spending is saved due to reduced skin cancer incidence [18].

Skin Cancer Risk Factors

Understanding the differences in risks and UVR exposure among groups allows us to focus our skin cancer prevention efforts.

Skin Tone

Skin tones play a large part in determining risk of skin cancer; generally, the fairer the skin, the higher the risk. All major types of skin cancer are more common among persons with light skin pigmentation, light or red hair, green or blue eyes, persons who burn easily and those who tan poorly [19].

<table>
<thead>
<tr>
<th>Skin Type</th>
<th>Risk Level</th>
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<tbody>
<tr>
<td>Black, Very Dark Brown</td>
<td>Low</td>
</tr>
<tr>
<td>Brown, Dark Brown</td>
<td>Low</td>
</tr>
<tr>
<td>Olive, Moderate Brown</td>
<td>Medium</td>
</tr>
<tr>
<td>Medium, White to Olive</td>
<td>Medium</td>
</tr>
<tr>
<td>White, Fair</td>
<td>High</td>
</tr>
<tr>
<td>Light, Pale White</td>
<td>High</td>
</tr>
</tbody>
</table>

Never burns, tans very easily, deeply pigmented
Very rarely burns, tans very easily
Rarely burns, tans with ease to a moderate brown
Sometimes mild burn, gradually tans to olive
Usually burns, tans with difficulty
Always burns, never tans
Children

Children are particularly vulnerable to over-exposure.

Fifty-three percent of children in Alberta were reported by their parents to spend two hours or more in the sun between 11 a.m. and 3 p.m. each day between the months of April and September (the peak UV period in Canada; Figure 5). Twenty-two percent of children in Alberta were reported by their parents to have had a sunburn in the last year (Figure 6). Children aged 6-12 spend more time in the sun, and were significantly more likely to have a sunburn than younger children leading to the need for a focus on skin cancer prevention in primary and middle school children.

**Figure 5.** Percentage of Albertan children under 12 who spend at least two hours in the sun between 11 a.m. and 3 p.m. each day between April and September by sex and age group (Alberta Parent/Child Sun Safety Survey, 2017) [25].

**Figure 6.** Percentage of Albertan children under 12 who have had a sunburn in the past 12 months by sex and age group (Alberta Parent/Child Sun Safety Survey, 2017) [25].
Adults

Forty-two percent of adults in Alberta reported having a sunburn in the last year.

Figure 7 below illustrates the association between age and sunburn. The difference between rates of sunburn in older Albertans (aged 60+ years; 17%) and younger Albertans (aged 18-29 years; 61%) informs the need to target younger adults for skin cancer prevention messaging, intervention and policy.

Currently in Alberta, we do not have a mechanism to gather knowledge, attitude and practice data from adolescents aged 13-17 years. Partnership and collaboration is recommended to develop data collection and monitoring systems for this important group.
Artificial Tanning

The International Agency for Research on Cancer (IARC) of the World Health Organization (WHO) has placed UV tanning beds (artificial tanning) into its highest hazard category, “carcinogenic to humans.” This means that there is a large body of evidence that causally links UVR exposure experienced in tanning beds with a higher risk of skin cancer [27].

**Adults:** Seven percent of adults in Alberta have used indoor tanning in the past year (Figure 8). Females reported using indoor tanning more in the last 12 months (9%) than males (5%). Younger adults (aged 18-29 years) reported using indoor tanning significantly more than older age groups (i.e. 60 years+). This indicates

![Figure 8. Percentage of adult Albertans who report using indoor tanning in the past 12 months by sex and age group (Alberta Community Health Survey, 2015-2016) [26].](image-url)
**Sun Protective Behaviours**

Primary prevention measures often focus on increasing sun protection such as the use of sunscreen, hats, and protective clothing. Yet, despite widespread public campaigns, sun protection behaviours still fall behind other health promotion efforts, even in Australia, which is the leading country in sun protection practice [28]. Across the globe and here in Alberta, there are a number of barriers to practicing UVR protective behaviours. These range from a lack of knowledge, to improper sunscreen use and over emphasis of sunscreen as a primary sun protective method [29-33].

Prevalence of UVR exposure or avoidance looks different when viewed through various demographic lenses and/or settings. For example, older age groups are less likely to experience sunburns compared to younger age groups and women are more likely to practice sun safe behaviours than men [33-34].

**Children:** Sunburns that occur in childhood increase the risk of developing skin cancer later in life [23,35,36]. The best chance to protect children from sunburn comes from the direct role played by parents, care providers and educators. This can be supported by UVR programs or interventions that create protective environments and seek to increase caregiver/educator knowledge and children’s knowledge [24,32,37]. Healthy sun-protection habits built in childhood can remain into adulthood [38-40].

Children under the age of 12 engage in sun safety behaviours differently in summer and winter months (Figure 9). Patterns of sun protection vary also by age and sex (see Appendix B). Targeting strategies based upon varying risks due to identified patterns in behaviour is an important component of comprehensive skin cancer prevention.

**Adolescents and young adults:** Adolescents and young adults spend more time in the sun than any other group and generally adopt less frequent UVR protection behaviours than adults, increasing their risk of overexposure to UVR [40]. They have also demonstrated positive attitudes towards sun tanning and being tanned [41]. Sun protection behaviour reaches its low point around age 16 or 17 before improving again in early adulthood [40]. These findings indicate that interventions would be most effective at eliciting change by focusing on younger, more receptive children and promoting good UVR habits early on.
Adults: Fewer than half of Albertans reported often/always engaging in each of the most important sun protective behaviours including seeking shade, wearing a hat, wearing protective clothing and wearing sunscreen (Figure 10).

![Figure 10. Percentage of adult Albertans who often/always engage in sun safety behaviours (Alberta Community Health Survey, 2015-2016) [26].](image)

For each of these preventive behaviours, patterns vary substantially by age and sex (see Appendix A). These detailed breakdowns serve as important baseline data and help focus strategies aimed at specific sub populations.

Outdoor workers: Outdoor workers are estimated to be exposed to 2 to 9 times more UVR compared to indoor workers [42]. Over their careers, this cumulative exposure makes them 2.5 to 3.5 times more likely to be diagnosed with skin cancers, in particular squamous cell carcinoma [43]. In Alberta in 2015-2016, 22% of the males who received a sunburn did so while doing paid work outdoors (Figure 11). This is significantly higher than females (3%). This indicates a need to focus on workplace policies and programs that protect outdoor workers.

![Figure 11. Of the adult Albertans who received a sunburn in the past 12 months, percentage of those who received it while doing paid work outdoors (Alberta Community Health Survey, 2015-2016) [26].](image)
**Recreational Activities:** Of Alberta adults who had a sunburn in the past year, 48% received it while engaged in recreational activities/sports (Figure 12). The proportion of those who experienced a sunburn while engaged in recreational activities/sports generally decreased with age. This indicates a need to focus on sun safety policies and programs within recreational settings with a particular focus on younger adults aged 18-29 years.

![Bar chart showing the percentage of sunburns by population sub-group and gender.]

*Figure 12.* Of the adult Albertans who received a sunburn in the past 12 months, percentage of those who received it while doing recreational activities/sports (Alberta Community Health Survey, 2015-2016) [26].
Alberta Policy Context

Intervention strategies addressing social and contextual factors make the healthy choice the easy choice and, therefore, have the potential for a broad public health impact.

Policy approaches have proven to be one of, if not the most, effective approaches to reduce the risks of exposure to UVR radiation. This is especially true for reducing the risks associated with artificial tanning beds [44]. Policy measures have been used at the national, provincial and municipal levels – with additional support from individual organizations (e.g. non-governmental and private sector).

Provincial Legislation

The Government of Alberta is committed to protecting Albertans from skin cancer. In March 2015, Bill 22, The Skin Cancer Protection Act, was passed unanimously by the Alberta Legislature. All political parties spoke strongly in favour of the importance of the legislation. Under Bill 22, youth under 18 years of age are banned from artificial tanning services effective January 1, 2018. The Government of Alberta is acting on clear evidence linking artificial tanning with skin cancer by prohibiting artificial tanning for minors and requiring businesses to prominently display health warnings [27].

Beginning January 1, 2018, businesses providing artificial tanning services:

- Cannot provide UV artificial tanning services to minors
- Cannot advertise UV artificial tanning services to minors
- Are required to post health warnings and age restrictions
- Cannot have unsupervised self-service artificial tanning equipment in public places

Protecting persons under the age of 18 is an important step in addressing the risks faced by people of all ages from artificial tanning. Through policy and education, government is promoting healthy behaviours by eliminating access for children and adolescents whilst increasing awareness of the risks of artificial tanning for people of all ages. Evaluating the impact of the policy will be important for guiding implementation.

“Despite being highly preventable, skin cancer is the most commonly diagnosed cancer in Canada. Too many Alberta teens are put at a significantly higher risk of developing melanoma — the deadliest form of skin cancer — by using indoor tanning equipment. By introducing policy to restrict youth access to indoor tanning equipment, the Government of Alberta is taking an important step in protecting youth from undue cancer risk.”

- Sarah Hawkins, Canadian Cancer Society
Municipal Policies

Development of strong shade policies in urban and rural municipalities across Alberta is a key strategy to ensuring equity in skin cancer prevention, and as such is one of the main strategies and targets within this Framework. Local municipal policies are an important component of a larger, comprehensive skin cancer prevention initiative in a community.

Based on the ranking typology developed by Cancer Care Ontario [45], the difference between a strong and moderate shade policy is the range of settings where shade is mandated. A strong policy requires shade structures for a broad range of settings whereas a moderate shade policy requires shade structures for at least one type of setting. Limited shade policies give a choice to the developer for considering shade provision or not.

A review of shade policies in Alberta urban centres with a population of 10,000 or more was conducted in July of 2017. It found that 13 of 18 (72%) cities in Alberta have some type of shade policy. Of these, Lethbridge is the only city with a strong shade policy, eight cities have moderate shade policies and four have limited shade policies.

A review of shade policies in communities with a population of less than 10,000 (most often rural communities) is required and will be carried out by the working groups. Once a baseline is established, the working groups can set a meaningful target for achieving strong shade policies in smaller communities across Alberta.
What Works for Preventing Skin Cancer?

Best practice strategies should be implemented using a comprehensive approach that includes universal population-level strategies as well as specific targeted strategies to reach priority groups and individuals at higher risk of developing skin cancer [1].

The Community Preventive Services Task Force recommends that sun safety/UVR initiatives be multi-component and community-wide and involve individual directed strategies, media campaigns and environmental and policy changes across multiple settings (provincial, municipal, organizational) [1]. The multi-component intervention should be delivered with a defined theme and brand.

Effective community-wide interventions should focus on [46]:

» Reaching at-risk populations
» Providing areas of shade
» Ensuring consistent and balanced messaging (to limit unintended negative impacts)
» Developing, delivering and sustaining provincial and local media campaigns
» Adopting a consistent, multiagency, local strategic approach

Where and how people live, learn, work and play influences their knowledge, attitudes, beliefs and behaviours toward exposure to and protection from UVR. Targeted interventions within specific settings have been effective at increasing individual UVR protective behaviours.

Outdoor recreation and tourism settings: Places where people play organized sports, swimming pools, parks and beaches are key settings where UVR protection messaging can be implemented. Effective interventions in outdoor recreation and tourism settings can be in the form of educational approaches; activities designed to influence the knowledge, attitudes and behaviours of workers and clients/citizens; environmental approaches to encourage UVR protection (e.g., shade structures); and policies to support UVR protection practices (e.g., provision of personal sun protective equipment) [8].

Primary and middle school settings: Great success in UVR protection has been achieved in primary and middle schools where appropriate sun protection measures have been undertaken. Effective interventions include educational interventions; supportive behavioural interventions; and environmental and policy changes [9].

Outdoor occupational settings (workplaces): Effective interventions in outdoor workplaces can be in the form of educational approaches; activities designed to influence the knowledge, attitudes and behaviours of workers; environmental approaches to encourage sun protection (e.g., shade structures); and policies to support UVR protection practices (e.g., provision of personal protective equipment) [7].

Childcare centres: Effective interventions in childcare centres include implementing UVR protection policies along with the education of staff and parents. Successful implementation has been shown to increase children’s protection from UVR [10].
Community Preventive Services Task Force Findings on Skin Cancer Prevention

The CPSTF has released the following findings on what works in public health to prevent skin cancer. These findings are compiled in The Guide to Community Preventive Services (The Community Guide) [47] and listed in the table below. Use the findings to identify intervention strategies you could use for your community.

Legend for CPSTF Findings:  
- **Recommended**  
- **Insufficient Evidence**

<table>
<thead>
<tr>
<th>Intervention</th>
<th>CPSTF Finding</th>
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<tbody>
<tr>
<td><strong>Education and Policy Approaches</strong></td>
<td></td>
</tr>
<tr>
<td>Child care center-based interventions</td>
<td>✅</td>
</tr>
<tr>
<td>Healthcare settings and providers</td>
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<tr>
<td>High school- and college-based interventions</td>
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<tr>
<td>Interventions in outdoor occupational settings</td>
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<tr>
<td>Interventions in outdoor recreational and tourism settings</td>
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<tr>
<td>Primary- and middle school-based interventions</td>
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<tr>
<td><strong>Interventions Targeting Children's Parents and Caregivers</strong></td>
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<tr>
<td>Interventions targeting children's parents and caregivers</td>
<td>⚫</td>
</tr>
<tr>
<td><strong>Community-Wide Interventions</strong></td>
<td></td>
</tr>
<tr>
<td>Mass media</td>
<td>⚫</td>
</tr>
<tr>
<td>Multicomponent community-wide interventions</td>
<td>✅</td>
</tr>
</tbody>
</table>

Alberta’s Skin Cancer Prevention Framework focuses on strategic directions and strategies with recommended levels of evidence. Approaches involving mass media, health care settings, high-schools/colleges and children's parents/caregivers should be included within community-wide, multi-component activities where deemed appropriate in the local context.
Section 2:

Working Together
Working Together

Working together is vital to achieving the goals and objectives put forward in the Framework. This document provides a comprehensive strategic plan that serves to focus the commitment of stakeholders in Alberta to improve the knowledge, capacity and supportive environments for skin cancer prevention over the next 10 years. It provides a platform for partnerships between governments, non-government organizations (NGOs) and the community.

Why a Provincial Approach?

Prevention of skin cancer is not only the responsibility of the health care sector; it is everyone’s responsibility. It demands coordinated action by all concerned: governments, health and other social and economic sectors, non-governmental and voluntary organizations, local authorities, industry and the media. People from all walks of life are involved as individuals, families and communities [48]. This means that a provincial approach is needed, in which government departments and a wide range of people and organizations in communities come together to create the conditions that support individual-level skin cancer prevention. We all have a role to play.
Collaboration as a Foundational Principle

The “Wheel of Participation” developed by the South Lanarkshire Council is the model employed in this Framework [49]. Throughout different phases of Framework implementation, we will need to inform, consult, participate and empower individuals, communities and provincial stakeholders. When doing so, we will aim to achieve the highest stage in each of the 4 categories. For example, when informing, we will ensure that we provide information the community wants and needs (high-quality information), which is often determined using genuine consultation and partnership. This 12 stage process provides the foundations for an open and democratic planning process that encourages participation techniques to achieve the objective of empowering stakeholders to reduce the incidence of skin cancer in Alberta.

To apply this approach, we need to go beyond traditional engagement methods of public meetings and press articles to building networks and communities of practice. As the Framework is implemented across the province, appropriate levels of engagement must be considered to meet specific objectives. Examples include involving stakeholders in multiple settings; promoting dialogue with civil society; and applying innovative techniques for discussion and inquiry.

Figure 13. The Wheel of Participation [49].
**Essential Partnerships**

A comprehensive approach to skin cancer prevention requires multi-level action from several stakeholders. In order to know where resources should be allocated, an understanding of the current state of skin cancer prevention activities and partnerships was necessary (Appendix C).

The analysis determined that the following groups of stakeholders are essential to the success of the Framework in guiding coordinated action in educational, recreational, workplace and primary care settings:

- **Provincial Government:** Many provincial government departments work to influence skin cancer and collaboration is required across those groups. Provincial governments make important policy and legislative decisions that can have a significant impact on skin cancer prevention.

- **Local Governments:** Municipalities provide public services to the community and are responsible for a range of planning activities, management of the environment and public spaces. Councils make significant contributions to skin cancer prevention through provision of shade in public recreation spaces and management of local sporting grounds and swimming pools.

- **Health Sector and NGOs:** Beyond government departments, this includes private sector providers, community agencies, government funded agencies and NGOs. The health sector plays an important role in increasing awareness and knowledge of skin cancer prevention for communities and individuals.

- **Surveillance and Research Communities:** Effective skin cancer prevention requires comprehensive data collection through monitoring and evaluation. It also requires linkages with universities and other research organizations that have expertise in skin cancer prevention, early detection and opportunities for increased national and provincial partnerships and coordination.

- **Primary Care Sector:** The primary care sector is integral to early detection of skin cancer as the majority of cases are detected at a general medical practice.

- **Private Sector:** Allied health care professionals such as physiotherapists, osteopaths and massage therapists can play an important role in recognizing unusual skin lesions. Employers also play a key role in providing safe environments and encouraging workers to use UVR-safe behaviours.
Based upon current knowledge of organizational activity and programming, there are a number of gaps in preventive activity that this Framework addresses (Appendix C). We propose the following actions to ensure that all current activities and programming across partners and settings are represented and leveraged for an integrated and comprehensive approach to skin cancer prevention in Alberta.

Strengthen engagement with:

» Research communities
» Local/municipal governments
» Private sectors
» Recreation facilities
» Educational facilities (childcare centres and primary/middle schools)

Taking action to engage these key partners are outlined in the following section on Strategic Directions.
Section 3:

Taking Action

Strategic Directions
This section describes what we are going to do and how, organized around four strategic directions.

**Strategic Direction 1**

**Inform Decision-making**

Informed decision-making involves using evidence to improve the way we approach skin cancer prevention. It starts by working with decision-makers to create equitable partnerships that facilitate increased understanding of their needs. It means finding and creating the best available evidence from a variety of sources (surveillance systems and surveys, context and experience), translating it to make it meaningful and disseminating it broadly [50].

Working with end-users from the start helps to ensure that knowledge is translated in ways that are most likely to drive decisions and action [51]. This type of integrated knowledge translation is a process whereby knowledge users are engaged at each step in the Framework [52].

**Objective 1:**

*Increase capacity to monitor trends in the burden of skin cancer; the supportiveness of community, school and workplace environments; and ultraviolet radiation (UVR) protective behaviours in Alberta.*

**Suggested Strategies:**

1.1 Assess current reporting and data collection processes of melanoma incidence and mortality and identify opportunities for enhancements.

1.2 Enhance strategies for monitoring and reporting trends in the incidence of non-melanoma skin cancer where gaps have been identified.

1.3 Leverage the Alberta Community Health Dashboard to share timely and applicable skin cancer data.

1.4 Collaborate with partners to update estimates of the economic burden of skin cancer and legislation and policies related to skin cancer prevention.

1.5 Develop and implement systems for monitoring the supportiveness of community, school and workplace policies and environments related to UVR protection (e.g., provincial or municipal policy scans).

1.6 Evaluate the opportunity to include the UVR safety behaviours module in the Alberta Chapter of the Canadian Community Health Survey (CCHS), and use the ACPLF survey panel to regularly assess and report knowledge, attitudes and behaviours regarding UVR safety and skin cancer prevention.

1.7 Develop systems to collect, analyze and report equity-related skin cancer prevention data (e.g., equity-related preventive behaviour data on the Alberta Community Health Dashboard).
**Objective 2:** Strengthen translation of data and evidence to inform effective programs and policies related to skin cancer prevention.

**Suggested Strategies:**

2.1 Promote innovation and research to generate and apply new evidence to inform planning and implementation of skin cancer prevention programs and policies (e.g., leverage scientific expertise within CancerControl Alberta pertaining to skin cancer prevention).

2.2 Promote research to better understand the measurement of UVR exposure in Alberta, particularly for outdoor workers.

2.3 Translate data and research findings into knowledge translation products that guide provincial and municipal government, NGO, medical practitioner and organizational action.

2.4 Create partnerships between researchers and knowledge users to develop and implement evidence-based UVR over-exposure prevention strategy kits and supportive environments in communities, schools, childcare centres and workplaces.

**Strategic Direction 2**

**Build Capacity for Action**

The ability to contribute to skin cancer prevention relies on having the right resources and skills to become effective change agents. At the heart of capacity building lies empowerment and control over resources to affect positive change at the individual, community, organizational and systems levels. Resources include individual competencies in one’s professional area of expertise as well as organizational structures and funding to carry out successful programs [5].
Objective 1: Build a community of practice to create and strengthen partnerships for UVR safety and skin cancer prevention.

Suggested Strategies:

1.1 Establish a coalition of key stakeholders representing diverse sectors (workplaces, schools, practitioners, researchers, NGOs and other health promotion organizations) to facilitate and coordinate combined action.

1.2 Identify and secure dedicated human and financial resources to support the coordination and ongoing sustainability of actions resulting from the Framework.

1.3 Develop and promote a community of practice to facilitate the sharing of experiences and create opportunities for mentorship across communities, workplaces and schools.

Objective 2: Increase capacity of key professional groups to play a strategic role in skin cancer prevention.

Suggested Strategies:

2.1 Work with key professional colleges/organizations to promote the inclusion of curricula on the harmful effects of UVR exposure and healthy UVR protective practices across the province (e.g., medical, teaching, nursing, public health, architecture, urban planning professionals, trade schools, etc.).

2.2 Expand skin cancer detection competencies among non-traditional, health care professions (e.g., massage therapists, estheticians, fitness trainers, tattoo artists, etc.) through continuing education or professional certifications.

Objective 3: Increase community capacity to sustain effective UVR safety protective actions.

Suggested Strategies:

3.1 Promote and implement incentivization or recognition strategies for UVR safety programs within multiple settings (e.g., schools, childcare centres, workplaces, communities, etc.) driven by provincial and municipal governments (e.g., Certificate of Recognition program).

3.2 Work with community leaders to encourage, support and facilitate the community as a whole to tackle the issue of UVR safety.

3.3 Equitably increase resources (people, facilities, money and time) available in communities for UVR safety protective actions.

3.4 Equitably increase community participation on the issue of skin cancer through community forums and meetings.

3.5 Partner with communities for ongoing learning and evaluation as they implement UVR safety protective actions.
Strategic Direction 3
Strengthen Supportive Environments

The Ottawa Charter for Health Promotion describes the inextricable link between people and their environments [53]. Strengthening supportive social and physical conditions for safe UVR behaviour in the places Albertans live, work, learn and play creates equitable opportunities to reduce risk.

Objective 1:  
Strengthen provincial and municipal policies that enable UVR protection.

Suggested Strategies:

1.1 Develop and continuously update model UVR protection policies and guidelines that can be tailored to priority settings (municipalities, schools, childcare centres, recreational facilities and outdoor workplaces) and promote their adoption.

1.2 Improve understanding of effective comprehensive UVR protection policies among relevant stakeholders (municipal leaders, educators, recreation staff and workplaces with outdoor workers).

1.3 Work with partners to implement UVR safety policies in priority settings (municipalities, schools, childcare centres, recreational facilities and outdoor workplaces).

1.4 Encourage and support the enforcement of the Skin Cancer Prevention Act (Bill 22).

- Use the introduction of the legislation to work with youth and youth-focused groups to increase awareness of UVR risks and promote safe behaviours.
- Promote the awareness of the risks associated with artificial tanning for all persons regardless of age, and their need to take action to protect themselves in the absence of comprehensive legislation.
Objective 2: Increase environmental approaches to encourage sun protection.

Suggested Strategies:

2.1 Establish provincial shade guidelines and disseminate broadly.

2.2 Improve understanding of effective and well-designed shade structures.

2.3 Facilitate the implementation of shade audits within priority settings to determine shade requirements.

2.4 Work collaboratively with public, private and NGOs responsible for urban planning and design to ensure shade principles are included in outdoor designs.

Objective 3: Partner with local municipalities to implement a multi-agency strategic approach.

Suggested Strategies:

3.1 Partner with senior managers in local municipalities to develop a consistent, multi-agency, local strategic approach. The strategic approach should address local needs and identify local opportunities to increase awareness of skin cancer. Health and social care workers in contact with at-risk groups could be targeted.

Objective 4: Facilitate the evaluation of UVR protection policies and programs.

Suggested Strategies:

4.1 Develop measurement tools to assess the quality of UVR protection policies and programs/practices across priority settings.
Health promotion supports personal and social development through providing information, education and enhancing life skills. In so doing, it increases the options available to people to exercise more control over their own health and over their environments, and to make choices conducive to preventing skin cancer [6, 54].

**Objective 1:** Develop and implement targeted activities for at-risk groups.

**Suggested Strategies:**

1.1 Develop and implement activities that focus on groups of people who should take extra care to avoid skin cancer (e.g., children, fair skinned individuals, people with a family history of skin cancer).

1.2 Develop and implement activities that focus on groups who spend a lot of time in the sun and are at a higher risk of skin cancer (e.g., outdoor workers and those with outdoor hobbies).

1.3 Work collaboratively to develop culturally appropriate messaging that local at-risk groups can relate to.

**Objective 2:** Develop and implement consistent messaging provincially and locally.

**Suggested Strategies:**

2.1 Develop and implement consistent and balanced messages in workplaces, schools, outdoor recreational centres and childcare centres. This could include: the strength of sunlight at different times of the day, advice specifically for children and young people, advice according to skin type, approaches to protect skin and checking for possible signs of skin cancer.

2.2 Develop, deliver and sustain provincial and local media campaigns to raise awareness of the risks of sun exposure. Campaign messages should target at-risk groups with consistent messaging that emphasizes the benefits of increasing the use of sun protection and reducing tanning behaviours.

**Objective 3:** Facilitate the evaluation of individual-level UVR safety indicators.

**Suggested Strategies:**

3.1 Develop appropriate indicators for UVR safety knowledge, attitudes and behaviours to effectively measure changes over time.
Section 4:

Making a Difference
Evaluation is an integral component of comprehensive skin cancer prevention as it provides a strategy for “assessing the planning process, monitoring implementation and measuring outcomes” of the initiative [55].

Given the absence of a single dedicated evaluation resource for the whole Framework, the implementation partners will commit to evaluating their efforts and report back on the actions taken and the outcomes generated. Once the working groups are established, they will develop action plans for the strategies in the Framework. The action plans will highlight indicators to be measured and tracked assessing the extent to which the objectives of the strategic priority areas are being met. The evaluation data will be used for accountability and program improvement purposes.

We will use the following mechanisms to routinely monitor progress: evaluating the implementation of strategies; monitoring changes in UVR knowledge, attitudes, behaviours and supportive environments; as well as changes in skin cancer incidence and mortality over time.

Skin cancer surveillance indicators (e.g., melanoma and non-melanoma incidence, mortality and staging) will be monitored annually in alignment with the Alberta Cancer Plan to 2030 [56]. Monitoring these surveillance data provides an opportunity to assess prevention efforts in the long term. Because reduction in melanoma incidence may take decades to manifest [57] and incidence rates are strongly influenced by population demographics [58], we have not set specific performance targets for melanoma surveillance indicators. In contrast, we have set targets for some performance indicators in skin cancer prevention effectiveness that will be monitored annually.

The logic model on the following pages outlines the strategic priority areas, related objectives and strategies and the outcomes we anticipate achieving. It also outlines the partnerships that will be required to achieve Alberta’s Skin Cancer Prevention Framework targets.
Alberta's Skin Cancer Prevention Framework aims to decrease skin cancer incidence in Alberta by providing direction on the improvement of supportive environments (policy, system, settings) that are foundational for increasing individual-level UVR safe behaviours conducive to preventing skin cancer [6, 54]. A focus on upstream supportive environments removes the burden off the individual and makes healthier behaviours easier.

### Targets

Alberta’s Skin Cancer Prevention Framework aims to decrease skin cancer incidence in Alberta by providing direction on the improvement of supportive environments (policy, system, settings) that are foundational for increasing individual-level UVR safe behaviours conducive to preventing skin cancer [6, 54]. A focus on upstream supportive environments removes the burden off the individual and makes healthier behaviours easier.

<table>
<thead>
<tr>
<th>Multi-Level 10-Year Targets</th>
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</thead>
<tbody>
<tr>
<td><strong>Municipal Policy</strong></td>
</tr>
<tr>
<td>100% of Alberta cities (&gt; 10,000 pop.) have moderate-to-strong shade policies by 2028*</td>
</tr>
<tr>
<td><strong>System</strong></td>
</tr>
<tr>
<td>Partnerships at the provincial, local, health sector, research institution, primary care and private sector levels are in place to support sustained action on skin cancer prevention by 2028</td>
</tr>
<tr>
<td><strong>Settings</strong></td>
</tr>
<tr>
<td>Double the number of Alberta workplaces and communities reporting increased supportive environments for skin cancer prevention by 2028</td>
</tr>
<tr>
<td><strong>Individual</strong></td>
</tr>
<tr>
<td>33% fewer children and adults experience sunburn due to risky sun UVR behaviours by 2028</td>
</tr>
</tbody>
</table>

### Consideration of unintended negative impacts

Universal interventions can result in adverse effects for some groups and result in increased health inequities. For example, universal messaging about the hazard of being in the sun could lead to lower levels of outdoor physical activity, an important health determinant that already follows a social gradient. Therefore, it is important that messages are tailored to consider the potential for exacerbating other health conditions or health inequities. The cost of sunscreen could be prohibitive for some individuals and could prevent them from adopting this UVR-safe behaviour.

Providing multiple options for UVR exposure safety increases the chances of presenting favourable options to everyone. It is important that messages are tailored to consider the potential for exacerbating other health conditions or health inequities. Strategies to create equitable supportive environments are key to reducing potential inequities that are rooted in economic constraints [59]. Health equity impact assessments (HEIAs) should be used when planning UVR policies and interventions to minimize the likelihood of unintended negative impacts.

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* A review of shade policies in communities with a population of less than 10,000 (most often rural communities) is required and will be carried out by the working groups. Once a baseline is established, the working groups can set a meaningful target for achieving strong shade policies in smaller communities across Alberta.
## Strategic Direction 1

### Inform Decision-making

<table>
<thead>
<tr>
<th>Objective</th>
<th>Suggested Strategies</th>
<th>Outcomes</th>
<th>Targets</th>
<th>Partnerships</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Objective 1: Increase capacity to monitor trends in the burden of skin cancer; the supportiveness of community, school and workplace environments; and UVR protective behaviours in Alberta.</strong></td>
<td><strong>Assess current data collection processes and reporting of melanoma incidence and mortality and identify opportunities for enhancements.</strong>&lt;br&gt;<strong>Enhance strategies for monitoring and reporting trends in the incidence of non-melanoma skin cancer where gaps have been identified.</strong>&lt;br&gt;<strong>Leverage the Alberta Community Health Dashboard to share timely and applicable skin cancer data.</strong>&lt;br&gt;<strong>Collaborate with partners to update estimates of the economic burden of skin cancer and legislation and policies related to skin cancer prevention.</strong>&lt;br&gt;<strong>Develop and implement systems for monitoring the supportiveness of community, school and workplace policies and environments related to UVR protection (e.g., provincial or municipal policy scans).</strong>&lt;br&gt;<strong>Evaluate the opportunity to include the UVR safety behaviours module in the Alberta Chapter of the Canadian Community Health Survey (CCHS), and use the ACPLF survey panel to regularly assess knowledge, attitudes and behaviours regarding UVR safety and skin cancer prevention.</strong>&lt;br&gt;<strong>Develop systems to collect, analyze and report equity-related skin cancer prevention data (e.g., equity-related preventive behaviour data on the Alberta Community Health Dashboard.</strong></td>
<td><strong>Increased availability and access to data and knowledge tools to support planning, development and assessment of prevention efforts amongst key groups.</strong></td>
<td><strong>Improved data (monitoring and tracking) of melanoma and non-melanoma cancers in Alberta by 2028. (Source: Surveillance &amp; Reporting, CancerControl Alberta)</strong></td>
<td><strong>Research Institutions</strong>&lt;br&gt;<strong>Provincial Government</strong></td>
</tr>
<tr>
<td><strong>Objective 2: Strengthen translation of data and evidence to inform effective programs and policies related to skin cancer prevention.</strong></td>
<td><strong>Promote innovation and research to generate and apply new evidence to inform planning and implementation of skin cancer prevention programs and policies (e.g., Leverage scientific expertise within CancerControl Alberta pertaining to skin cancer prevention).</strong>&lt;br&gt;<strong>Translate data and research findings into knowledge translation products that guide provincial and municipal government, non-government organization, practitioner, and organizational action.</strong>&lt;br&gt;<strong>Create partnerships between researchers and knowledge users to develop and implement evidence-based UVR over-exposure prevention strategy kits and supportive environments in communities, schools, childcare centres and workplaces.</strong></td>
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<td></td>
<td><strong>Improved utilization of UVR knowledge products by decision-makers by 2028. (Source: TBD)</strong></td>
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</table>
## Strategic Direction 2
### Building Capacity for Action

<table>
<thead>
<tr>
<th>Objective</th>
<th>Suggested Strategies</th>
<th>Outcomes</th>
<th>Targets</th>
<th>Partnerships</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Objective 1: Build a community of action to create and strengthen partnerships for UVR safety and skin cancer prevention.</strong></td>
<td>Establish a coalition of key stakeholders representing diverse sectors (workplaces, schools, practitioners, researchers, NGOs and other health promotion organizations) to facilitate and coordinate combined action.</td>
<td>Increased availability and uptake of new curriculum, programs (e.g., recognition program for UVR safe settings) and policies.</td>
<td>Support for working together across organizational, municipal and provincial boundaries is fostered through a community of practice by 2028. (Source: TBD)</td>
<td>Research Institutions</td>
</tr>
<tr>
<td></td>
<td>Identify and secure dedicated human and financial resources to support the coordination and ongoing sustainability of actions resulting from the Framework.</td>
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<tr>
<td></td>
<td>Develop and promote a Community of Practice to facilitate the sharing of experiences and create opportunities for mentorship across communities, workplaces and schools.</td>
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</tr>
<tr>
<td><strong>Objective 2: Increase capacity of key professional groups to play a strategic role in skin cancer prevention.</strong></td>
<td>Work with key professional colleges/organizations to promote the inclusion of curricula on the harmful effects of UVR exposure and healthy UVR protective practices in all relevant education and training programs across the province (medical, teaching, nursing, public health, architecture and urban planning professionals, trade schools, etc.).</td>
<td>Presence of a settings-based community of practice to support local action.</td>
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<tr>
<td></td>
<td>Expand skin cancer detection competencies among non-traditional, medical professions (e.g., massage therapists, estheticians, fitness trainers, tattoo artists, etc.) through continuing education or professional certifications.</td>
<td>Improved capacity of professionals to advocate for UVR safety with their client groups.</td>
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</tr>
<tr>
<td><strong>Objective 3: Increase community capacity to sustain effective sun safety protective actions (policies and programs).</strong></td>
<td>Promote and implement incentivization or recognition strategies for UVR safety programs within multiple settings (e.g., schools, daycares, workplaces, communities, etc.) driven by provincial and municipal governments (e.g., Certificate of Recognition program).</td>
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- **Research Institutions**
- **Medical Schools**
- **Nursing Schools**
- **Architecture Schools**
- **Public Health Schools**
- **Urban Planning Schools**
- **Massage Therapy Schools**
- **Esthetic Schools**
- **Fitness Training Schools**
- **Primary and Middle Schools**
- **Childcare**
- **Workplaces**
- **Recreation Centres**
## Strategic Direction 3

### Strengthen Supportive Environments

<table>
<thead>
<tr>
<th>Objective</th>
<th>Suggested Strategies</th>
<th>Outcomes</th>
<th>Targets</th>
<th>Partnerships</th>
</tr>
</thead>
</table>
| **Objective 1: Strengthen provincial and municipal policies that enable UVR protection.** | ➤ Develop and continuously update model UVR protection policies and guidelines that can be tailored to priority settings (municipalities, schools, childcare centres, recreational facilities and outdoor workplaces) and promote their adoption.  
➤ Improve understanding of effective comprehensive UVR protection policies among relevant stakeholders (municipal leaders, educators, recreation staff and workplaces with outdoor workers).  
➤ Work with partners to implement UVR safety policies and practices in priority settings: municipalities, schools, childcare centres, recreational facilities and outdoor workplaces.  
➤ Encourage and support the enforcement of the Skin Cancer Prevention Act (Bill 22). | ➤ Increased development and implementation of UVR protection policies across settings.  
➤ Increased supportiveness of physical environments for UVR protection.  
➤ Increased supportiveness of social environments for UVR protection.  
➤ 100% of Alberta cities have moderate-to-strong shade policies by 2028. (Source: **Deutschlander & Corolis, 2017**)  
➤ Double the number of Alberta communities that have increased the supportiveness of their environments for skin cancer prevention (i.e. shade structures) by 2028. (Source: TBD) | ➤ Provincial Government  
➤ Municipal Governments  
➤ Community Coalitions  
➤ Workplaces  
➤ Recreation Centres  
➤ Primary and Middle Schools  
➤ Child Care Centres  
➤ Health Non-government Organizations  
➤ Research Institutions |

| Objective 2: Increase environmental approaches to encourage UVR protection. | ➤ Establish provincial shade guidelines and disseminate broadly.  
➤ Improve understanding of effective and well-designed shade structures.  
➤ Facilitate the implementation of shade audits within priority settings to determine shade requirements.  
➤ Work collaboratively with public, private and non-governmental organizations responsible for urban planning and design to ensure shade principles are included in their outdoor designs. | ➤ Increased supportiveness of economic environments for UVR protection. | | |

| Objective 3: Partner with local municipalities to implement a multi-agency strategic approach. | ➤ Partner with senior managers in local municipalities to develop a consistent, multi-agency local strategic approach. The strategic approach should address local needs and identify local opportunities to increase awareness of skin cancer. Health and social care workers in contact with at-risk groups could be targeted. | | | |

| Objective 4: Facilitate the evaluation of UVR protection policies and programs. | ➤ Develop measurement tools to assess the quality of sun protection policies and programs and practices across priority settings. | | | |
### Strategic Direction 4

**Improve Knowledge, Attitudes & Behaviours of Individual Albertans**

<table>
<thead>
<tr>
<th>Objective</th>
<th>Suggested Strategies</th>
<th>Outcomes</th>
<th>Targets</th>
<th>Partnerships</th>
</tr>
</thead>
</table>
| **Objective 1: Develop and implement targeted activities for at-risk groups.** | » Develop and implement activities that focus on groups of people who should take extra care to avoid skin cancer (e.g., children, fair skinned, people with a family history of skin cancer).  
» Develop and implement activities that focus on groups who spend a lot of time in the sun and are at a higher risk of skin cancer (e.g., outdoor workers and those with outdoor hobbies).  
» Work collaboratively to develop culturally appropriate messaging that local at-risk groups can relate to. | » Improved knowledge, attitudes and behaviours about skin cancer and solar and non-solar UVR protection.  
» More Albertans take action to protect themselves from UVR over-exposure.  
» Decreased sunburn in children and adults. | » 33% fewer children and adults experience sunburn due to risky UVR behaviours by 2028. (Source: Alberta Parent/Child Sun Safety Survey) | » Provincial Government  
» Health Non-government Organizations  
» Workplaces  
» Primary and Middle Schools  
» Recreation Centres  
» Child Care Centres |
| **Objective 2: Develop and implement consistent messaging provincially and locally.** | » Develop and implement consistent and balanced messages in workplaces, schools, outdoor recreational centres and childcare centers. This could include: the strength of sunlight at different times of the day, advice specifically for children and young people, advice according to skin type, approaches to protect skin and checking for possible signs of skin cancer.  
» Develop, deliver and sustain provincial and local media campaigns to raise awareness of the risks of sun exposure. Campaign messages should target at-risk groups with consistent messaging that emphasizes risks. | | | » Provincial Government  
» Health Non-government Organizations  
» Workplaces  
» Primary and Middle Schools  
» Recreation Centres  
» Child Care Centres |
| **Objective 3: Facilitate the evaluation of individual-level UVR** | » Develop appropriate indicators for UVR safety knowledge, attitudes and behaviours to effectively measure changes over time. | | | |

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* Evaluating the process of implementing the various strategies helps ensure that everything is unfolding according to plan and if the planning is unfeasible, corrections along the way can be made [52]. The working groups will make decisions about implementing key activities to reach objectives that will influence long-term outcomes (e.g., working with municipalities to adopt a UVR safety policy). These actions should be monitored and tracked to provide insights into how the objectives were reached and if not, what process improvements could be made.

** Deutschlander S, Corolis B. Strategic Direction #3 strengthen supportive environments: Shade policies in Alberta municipalities. 2017 July 31. ACPLF, unpublished.**
Section 5:

Governance and Reporting Arrangements
Governance Structure

Working Groups

Working groups will be established to implement each of the Strategic Directions.

Alignment with Strategic Directions:

1. Inform Decision Making - Surveillance, Research and Evaluation
2. Build Capacity - Coalition and Community of Practice
3. Strengthen Supportive Environments - Health Promotion, Health Protection
4. Improve Knowledge, Attitudes and Behaviours of Individual Albertans - Health Promotion, Health Protection

Additional stakeholders will be engaged as appropriate to achieve targets and sustainably reduce skin cancer incidence in Alberta. Evaluation of action will be essential for the working groups to measure strategic direction progress and achievement of targets. Evaluation templates and resources will be collaboratively developed for the working groups.
Section 6:

The Way Forward
The Way Forward

Alberta’s Skin Cancer Prevention Framework establishes strategic directions to guide and coordinate skin cancer prevention initiatives across the province. It includes strategies that target where people live, learn, work and play to increase capacity for effective action and reduce skin cancer incidence.

With adequate support and a unified approach, comprehensive, community-wide efforts in Alberta can make a big impact on skin cancer incidence [1]. Success will require a sustained commitment and coordination across diverse partners and sectors. If all of this is achieved, significant reductions in illness, death, lost productivity and health care costs related to skin cancer can be achieved.

Communities

You can support implementation of the artificial tanning regulations by:

» Using the introduction of the legislation to work with youth and youth-focused groups to increase their awareness of UVR risks and promote sun safe behaviours.
» Promoting the awareness of the hazards of artificial tanning for all persons regardless of their age and their need to take action to protect themselves.

You can advance shade protection policy in your community by:

» Leveraging existing interest among senior city officials (including landscape architects) for natural and constructed shade in Alberta cities by inviting them to the working group.
» Engaging champions among city councillors to lobby for change.
» Encouraging city officials to form shade policy committees in interested municipalities.
» Identifying actions and policies among municipalities on skin cancer prevention including tools and examples supporting further action among municipalities (e.g., shade audit tools).
» Conducting shade audits on tree canopies among interested cities to assess existing shade provision.
» Recommending shade provision in new municipal developments on a go-forward basis.
» Offering urban design competitions and grants by including shade as an integral part of the design.
» Considering knowledge translation and exchange opportunities to learn more about existing municipal approaches to shade policies.
Workplaces

You can protect your employees in a number of different ways:

» Build shade structures.
» Be a committed leader for UVR safety.
» Develop a workplace policy that ensures work environments are scheduled or adapted for UVR safety.
» Incorporate UVR safety into onboarding and current workplace health activities.
» Provide UVR safety messages for employees.
» Provide personal protective equipment (e.g., long sleeve shirts, wide brim hats).

Health Care Settings

You can ensure patients are receiving prevention information and screening by [59]:

» Raising awareness of how to prevent skin cancer and the dangers of artificial tanning.
» Tailoring prevention messaging based on the individual’s at highest risk.
» Ensuring early recognition and diagnosis.
» Delivering presentations to the wider community about skin cancer – ensure messaging includes information about limiting UVR exposure and wearing protective clothing.
Individuals

You can make UVR protection part of your daily life by [60]:

» Checking the daily forecast for the UV Index and protect your skin accordingly.
» Seeking shade or bringing your own.
» Wearing a hat and clothing that covers as much skin as possible, as appropriate to the activity and weather.
» Using broad spectrum, water-resistant sunscreen with an SPF of at least 30 on skin not covered by clothing and reapplying as necessary.
» Planning outdoor activities for before 11:00 a.m. or after 3:00 p.m., between April and September.
» Using sources of vitamin D that are safer than UVR (e.g., dietary sources, fortified foods and vitamin D supplements).
» Protecting your eyes: Wear sunglasses or eyeglasses with UV protective lenses when outdoors from morning to evening, all year round, even when it’s cloudy.
Researchers

You can advance the skin cancer prevention research agenda and develop new and innovative ways to both measure skin cancer as well as prevent it. The National Institute for Health and Care Excellence has identified the following evidence gaps [58]:

» Improving our understanding of factors that influence social and digital media methods used to convey complex risk messages and ultimately influence UVR safety behaviours.
» Improving our understanding of how to identify and target individuals and groups most at-risk for UVR overexposure.
» Determining the combination of interventions that are most effective at helping people reduce the risks of UVR overexposure.

Together we can create the conditions to reduce skin cancer incidence in Alberta.
References
References


Appendix A:

Adult Preventive Behaviour Data
**Adult Preventive Behaviour Data**

**Seek shade:** The proportion of females who often/always seek shade is higher than males (Figure 1). The proportion of those who often/always seek shade is higher among those 18-29 years of age and 60 and older. This should lead to a greater focus on emphasizing the importance of seeking shade amongst males and those aged 30-59.

![Figure 1](image)

**Wear a hat:** The proportion of males who often/always wear a hat (49%) is higher than females (32%), and that the proportion of people who wear a hat increases with age (Figure 2). This should lead to a greater focus on emphasizing the importance of wearing a hat amongst females and amongst younger adults.

![Figure 2](image)
Apply sunscreen: The proportion of females who often/always wear sunscreen (58%) is higher than males (32%), and the proportion of people who wear sunscreen tends to decrease with age (Figure 3). This should lead to a greater focus on emphasizing the importance of wearing sunscreen amongst males and older adults.

Figure 3. Percentage of adult Albertans who often/always apply sunscreen (Alberta Community Health Survey, 2015-2016) [26].
Appendix B:

Under 12 Preventive Behaviour Data
# Under 12 Preventive Behaviour Data

**Seek Shade:** 35% of children in Alberta are reported to often/always seek shade in the summer, and 10% of children in Alberta are reported to often/always seek shade in the winter (Figure 1). The proportion of children who often/always seek shade decreases as children age, and more males seek shade than females in the winter. It is recommended that efforts to promote sun safety encourage more school aged children (6-12 years) and females to seek shade more often.

![Figure 1. Percentage of Albertan children under 12 who often/always seek shade in the summer/winter (Alberta Parent/Child Sun Safety Survey, 2017) [25].](image)

**Wear a hat:** 53% of children in Alberta are reported to often/always wear a hat in the summer, and 45% of children in Alberta are reported to often/always wear a hat or mask in the winter (Figure 2). The proportion of children who often/always wear a hat or mask decreases as children age, and more males wear a hat in the summer than females. It is recommended that efforts to promote UVR safety encourage more school aged children (6-12 years) and females to wear a hat more often.

![Figure 2. Percentage of Albertan children under 12 who often/always wear a hat in the summer/winter (Alberta Parent/Child Sun Safety Survey, 2017) [25].](image)
Wear protective clothing: 44% of children in Alberta are reported to often/always wear protective clothing that covers their body in the summer, and 84% of children in Alberta are reported to often/always wear protective clothing that covers their body in the winter (Figure 3). The proportion of children who often/always wear protective clothing increases as children age, and more females wear protective clothing in the winter than boys. It is recommended that efforts to promote UVR safety encourage younger children (0-5 years) to wear protective clothing more often during the summer months, and more males to wear protective clothing more often in the winter.

![Figure 3. Percentage of Albertan children under 12 who often/always wear protective clothing in the summer/winter (Alberta Parent/Child Sun Safety Survey, 2017) [25].]

Wear sunglasses: 15% of children in Alberta are reported to often/always wear sunglasses in the summer, and 8% of children in Alberta are reported to often/always wear sunglasses in the winter (Figure 4). The proportion of children who often/always wear sunglasses is low. Therefore, sun safety should emphasize a greater focus on promoting sunglass use amongst children all year.

![Figure 4. Percentage of Albertan children under 12 who often/always wear sunglasses in the summer/winter (Alberta Parent/Child Sun Safety Survey, 2017) [25].]
Use sunscreen: 66% of children in Alberta are reported to often/always wear sunscreen in the summer, and 8% of children in Alberta are reported to often/always wear sunscreen in the winter (Figure 5). The proportion of children who often/always wear sunscreen decreases as children age. It is recommended that efforts to promote sun safety encourage more school-aged children (6-12 years) to wear sunscreen more often. 95% of children are reported to wear sunscreen with an SPF of 30 or higher when they do wear sunscreen.

Figure 5. Percentage of Albertan children under 12 who often/always wear sunscreen in the summer/winter (Alberta Parent/Child Sun Safety Survey, 2017) [25].
Appendix C:

Stakeholder Action Matrix
The stakeholder action matrix provides a current snapshot of action by engaged partners within the priority settings as of November 2017. Individuals are also included in the matrix as a level of action for comparison and understanding of the breadth and focus of current action. Gaps identify areas of opportunity for partnership with further investigation of current programs/initiatives.

### Stakeholder Action Matrix

<table>
<thead>
<tr>
<th>Provincial</th>
<th>Municipal</th>
<th>Health Sector NGOS</th>
<th>Research, Monitoring &amp; Evaluation</th>
<th>Private Sector</th>
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**Note:** The table above includes partnerships and initiatives as of November 2017. Gaps indicate areas of opportunity for further investigation.