NSW SKIN CANCER PREVENTION STRATEGY

Working together to lessen the impact of skin cancer in NSW
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1 Skin cancer in New South Wales

1.1 INCIDENCE AND IMPACT OF SKIN CANCER

Australia has the highest rates of skin cancer in the world and most Australians are at risk. Overexposure to ultraviolet radiation leads to burning and tanning in the short-term and results in premature skin ageing and skin cancer in the long term.

Skin cancer is the uncontrolled growth of abnormal cells in the skin. There are three main types of skin cancer: basal cell carcinoma, squamous cell carcinoma and melanoma. Melanoma is the most serious type of skin cancer. If left untreated, it may spread deeper into the skin where cancer cells can escape and be carried to other parts of the body (1).

There are a number of factors associated with the risk of developing melanoma including:

- a history of melanoma or other skin cancer
- having several large or many small moles on the skin
- having a fair complexion, including light-coloured, blonde or red hair, light coloured eyes and/or fair skin that freckles easily
- exposure to the sun and other sources of ultraviolet radiation (UVR) such as sunbeds
- a family history of melanoma (2).

Australia has the highest rate of melanoma in the world in men and the second highest rate in women, and melanoma is the most common cancer in young people aged between 15 and 30 years in New South Wales (NSW) (3).

Between 1991 and 2009, the incidence of melanoma increased by 42 per cent in males and 18 per cent in females (4). In 2014, around 14,240 people were expected to be diagnosed with melanoma, and that figure is projected to increase to 17,570 in 2020 (5). The lifetime cost of the 150,000 incident cases of skin cancer diagnosed in NSW in 2010 is estimated to be around $536 million, with direct costs accounting for 72 per cent of costs and indirect costs accounting for 28 per cent of costs (6).

Yet while skin cancer is the most common cancer in Australia and the most costly cancer to the Australian health system, it is estimated that nearly 95 per cent of skin cancers can be prevented through reduced exposure to UVR (3). The available evidence demonstrates that community members can, for example, reduce their exposure to UVR by adopting the following sun protection behaviours when UV levels are 3 and above:

- Slip on clothing that covers your arms and legs
- Slop on 30+ broad-spectrum water-resistant sunscreen
- Slap on a broad-brimmed hat that protects your face, ears and neck
- Seek shade whenever you can
- Slide on wrap-around sunglasses

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1 Choose shirts with collars, high necks and sleeves and trousers or longer shorts and skirts that fall below the knees.

2 Apply generously 20 minutes before going outside and re-apply every 2 hours. Never rely on sunscreen alone.

3 Broad-brimmed, bucket and legionnaire style hats provide good protection. Baseball caps are not recommended, as they do not protect the ears, cheeks or neck.

4 It is especially important to seek shade when UV levels are highest between 10am and 2pm (11am and 3pm during daylight saving).

5 These sunglasses should meet Australian Standard AS1067 and fit your face well.
Skin cancer public education campaigns have gone someway to reducing the morbidity, mortality and economic burden of skin cancer: for example, a recent benefit cost analysis of three skin cancer public education campaigns revealed a ratio of 3.85, suggesting that for every $1 that is invested in public education campaigns, a return of $3.85 is achieved (8).

1.2 THE CANCER INSTITUTE NSW

Our mission: Working together to lessen the impact of cancers. We work in partnerships with the community, people affected by cancer, health professionals, governments and organisations. We work as one to change the face of cancer in NSW.

Our vision: To end cancers as we know them. We bring the world’s best cancer control practices to NSW and we export our best cancer control practices to the world. We lessen the impact of cancers on individuals and the health system.

The objectives of the Cancer Institute NSW, as detailed by the Cancer Institute (NSW) Act 2003, are to:

1. reduce the incidence of cancer in the community
2. increase the survival rate for people diagnosed with cancer
3. improve the quality of life of people diagnosed with cancer and their carers
4. operate as a source of expertise on cancer control for the government, health service providers, medical researchers and the general community.

The Cancer Institute NSW is funded by the NSW State Government and works with the NSW Ministry of Health, Local Health Districts, Primary Health Networks, Specialty Health Networks, other NSW Health Pillars, and government and non-government agencies to improve cancer-related health outcomes across NSW.

The Cancer Institute NSW provides the state-wide strategic direction for cancer control in NSW. The Cancer Institute NSW has a 12-year history of developing and implementing activities that support the community to: decrease their risks of cancer; utilise cancer screening services and access world class treatment services necessary to optimise cancer outcomes.
1.3 THE NSW SKIN CANCER PREVENTION STRATEGY 2012-2015

1.3.1 BACKGROUND

The NSW Skin Cancer Prevention Strategy 2012-15 (2012-15 Strategy) defined a comprehensive approach to reducing overexposure to UVR and ultimately the incidence of skin cancer in NSW. The 2012-15 Strategy was developed by the Cancer Institute NSW in consultation with consumers, consumer groups and organisations, health care professionals, specialist cancer services, cancer charities, research institutions, professional associations, local governments, government agencies, and non-government organisations.

In line with the NSW Cancer Plan 2011-15, the 2012-15 Strategy included four Priority Areas for reducing overexposure to UVR:

**Priority Area 1:** UVR Protection Policy

**Priority Area 2:** Shade Provision

**Priority Area 3:** UVR Protection Behaviour

**Priority Area 4:** Strategic Research.

1.3.2 KEY ACHIEVEMENTS

Achievements for each of the priority areas over the Strategy were numerous and wide-reaching, including:

- reducing the number of solaria legally operating in NSW from 200 at 2013 to zero at 2015
- increasing the proportion of Cancer Council NSW SunSmart primary schools from 37 per cent at 2012 to 79 per cent at 2015
- introducing a mandatory sun protection policy requirement as a condition of funding under the NSW Office of Sport, Sports Development Program from June 2014
- reviewing and updating the Guidelines to Shade (formerly The Shade Handbook) by the Cancer Council NSW
- promoting and expanding shade grants and rebates across community, education, workplace and recreation settings, resulting in more than 200 shade grants being awarded across the life of the Strategy
- implementing skin cancer prevention public education activities reaching children, youth and young adults, and older men (all priority populations in the Strategy) and the broader community
- increasing adoption of sun protection behaviours amongst adolescents and young adults and the broader community between 2011 (pre-strategy implementation) and 2014 (post-strategy implementation).
2 The NSW Skin Cancer Prevention Strategy

The NSW Skin Cancer Prevention Strategy is the second statewide cancer plan and builds on the successes of two other plans specific to the Cancer Institute NSW. It reflects an integrated and collaborative approach to reducing the burden of cancers in NSW.

The NSW Cancer Plan is the second statewide cancer plan and builds on the successes of two other plans specific to the Cancer Institute NSW. It reflects an integrated and collaborative approach to reducing the burden of cancers in NSW.

Consistent with the previous NSW Cancer Plan 2011-15, the purpose of the current NSW Cancer Plan is to provide the platform to facilitate a co-ordinated, collaborative approach to reducing the burden of cancers in NSW. This plan has been specifically developed as an across-government, statewide plan and provides the opportunity to strengthen existing partnerships and develop new ones to work together to lessen the impacts of cancers.
The NSW Cancer Plan sets out a number of goals for NSW, including:

**Goal 1:** To reduce the incidence of cancer.

The NSW Cancer Plan also articulates eight objectives to facilitate the strategies and actions deemed necessary to make progress towards the goals. Three objectives are included under Goal 1, including:

**Objective 2:** Reduce over exposure to ultraviolet radiation (10).

<table>
<thead>
<tr>
<th>OBJECTIVE</th>
<th>STRATEGIES</th>
<th>PRIORITISED ACTIONS</th>
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<tbody>
<tr>
<td>Reduce over exposure to ultraviolet radiation</td>
<td>Engage with the community and key stakeholders to develop, implement and evaluate comprehensive skin cancer prevention activities.</td>
<td>Implement and evaluate the Skin Cancer Prevention Strategy, including social marketing programs that target priority populations. Generate and use new evidence to inform strategic planning, and the development and implementation of skin cancer prevention policies, projects and services.</td>
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### 2.2 GOALS OF THE NSW SKIN CANCER PREVENTION STRATEGY

The NSW Skin Cancer Prevention Strategy builds on the achievements of the 2012-2015 Strategy and defines a comprehensive approach to reducing overexposure to sun and ultimately the incidence of skin cancer in NSW.

In line with the approach of the NSW Cancer Plan, the NSW Skin Cancer Prevention Strategy articulates three goals:

1. To **increase** implementation of comprehensive effective sun protection policies and guidelines
2. To **improve** access to adequate shade
3. To **increase** the adoption of sun protection behaviours.

The NSW Skin Cancer Prevention Strategy also articulates eight objectives to facilitate the strategies and actions deemed necessary to make progress towards the goals. The development of the goals and objectives of the NSW Skin Cancer Prevention Strategy was guided by:

- learnings and achievements of the 2012-15 Strategy
- the national and NSW policy context, including goals and objectives of the NSW Cancer Plan
- stakeholder and public consultation.

### 2.3 PRIORITY POPULATIONS

The 2012-15 Strategy aimed to reduce the incidence of skin cancer across the NSW population; however, priority populations that are at high risk of developing skin cancer were also identified for a more targeted approach. These populations were children under 12 years of age, adolescents and young adults (13-24 years of age) and adult males 40 years of age and older (3). Evidence indicates that these populations remain at high risk of developing skin cancer and consequently remain priority populations under the NSW Skin Cancer Prevention Strategy. For example:

- Both acute and chronic overexposure to the sun during childhood and adolescence contributes significantly to the development of skin cancers, including melanoma (11).
Adolescents adopt sun protection behaviours at lower rates than both children and adults; most commonly, sun protection behaviour begins to decline in pre-adolescent years, reaches a low-point at around 16-17 years, and then improves as adolescents move into adulthood (12).

Incidence of melanoma increases dramatically for males from around 45 years of age, and there was a significant 11 per cent increase in male mortality rates for the period 1999-2008 (13).

### 2.4 PRIORITY SETTINGS

The 2012-15 Strategy acknowledged that alongside health settings, where and how people live, learn, work and play influences their knowledge, attitudes, beliefs and behaviours toward exposure to and protection from UVR. The following settings were considered to play a key role in promoting health and provide the opportunity for skin cancer prevention initiatives:

- **Community** – built environments, social structures, advocacy
- **Education** – schools, early childhood centres, TAFEs, colleges, universities
- **Workplaces** – industries, outdoor workplaces
- **Recreation** – parks, sporting grounds, beaches, public swimming pools, tourism destinations
- **Healthcare services** – general practice, pharmacies, allied health service providers, community health, health promotion services (3).

Consultation with key stakeholders for the evaluation of the 2012-15 Strategy suggested that there is ongoing potential to promote health and skin cancer prevention within these settings; therefore, the settings will remain a priority under the NSW Skin Cancer Prevention Strategy.

### 2.5 DEVELOPMENT OF THE NSW SKIN CANCER PREVENTION STRATEGY

The Cancer Institute led the development of the Strategy through the following consultation processes:

1. key informant interviews with stakeholders from April-June 2015
2. providing the draft Strategy to key stakeholders for feedback prior to public release of these documents
3. conducting a public consultation process in October 2016 to gather feedback from a broader range of stakeholders and the general public in response to the Strategy.

The Cancer Institute finalised the Strategy in consultation with the NSW Skin Cancer Prevention Advisory Committee.
The NSW Skin Cancer Prevention Strategy

**Vision**
To reduce incidence of skin cancer in NSW

**Goals**
- To increase the adoption of sun protection behaviours
- To improve access to adequate shade
- To increase implementation of comprehensive effective sun protection policies and guidelines

**Objectives**
- Improve awareness and understanding of what constitutes effective comprehensive sun protection policies and guidelines
- Increase capacity for the development and implementation of comprehensive sun protection policies and guidelines
- Use data and information to monitor extent and quality of sun protection policies and guidelines
- Improve awareness and understanding of what constitutes adequate shade
- Improve measurement of shade availability and adequacy
- Increase availability of adequate shade
- Use data and information to monitor shade availability and adequacy
- Ensure that skin cancer prevention messaging is consistent and in line with best-practice
- Positive change in UVR protection knowledge, attitudes and behaviours
- Use data and information to assess the impact of public education campaigns and other interventions

**Priority populations**
- Children
- Adolescents and young adults
- Adult males over 40

**Priority settings**
- Community
- Education
- Workplaces
- Recreation
- Healthcare services

**Guiding principles**
- Public sector, private sector and community sharing responsibility and working effectively together to reduce the incidence of skin cancer in NSW
- Learning from and building on the NSW Skin Cancer Prevention Strategy 2012-15
- Use data and information to monitor and improve performance of skin cancer prevention policies, services, programs and campaigns
3  Goal 1: To increase implementation of comprehensive effective sun protection policies and guidelines

3.1 OVERVIEW

The translation of evidence into policy, and then into practice, at both a government and organisational level can be complex and variable. While the presence of a sun protection policy does not guarantee the implementation of sun protection practices, evidence suggests that it can assist in ensuring that skin cancer prevention is prioritised by organisations and governments, and plays a significant role in agenda setting. The first goal of the NSW Skin Cancer Prevention Strategy is aimed at ensuring that all NSW Government agencies and relevant industry bodies are implementing effective comprehensive sun protection policies and guidelines, which address:

- scheduling of outdoor activities
- provision of shade
- use of clothing, hats, sunglasses, sunscreen
- role modelling
- education and communication.

In line with the guiding principles of the NSW Skin Cancer Prevention Strategy, the strategies and prioritised actions under this goal build upon the substantial achievements of the 2012-15 Strategy, including expansion or improvement of policies and guidelines across the following priority settings:

- education
- workplaces
- recreation.

Over the next five years, the development and implementation of evidence-based sun protection policies by NSW Government agencies and relevant industry bodies will be supported by:

- strategic efforts to improve awareness and understanding of effective comprehensive sun protection policies amongst NSW Government agencies and relevant industry bodies
- increased and targeted support for NSW Government agencies and relevant industry bodies to develop and implement comprehensive sun protection policies.

Data and information will be used to monitor and evaluate progress against this goal under the Strategy, including evaluation of individual campaigns, programs and interventions.
### 3.2 PRIORITISED ACTIONS

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<tr>
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<tbody>
<tr>
<td><strong>Continue to improve awareness and understanding</strong> of what constitutes effective comprehensive sun protection policies and guidelines.</td>
<td>Develop and refine sun protection policy/guidelines best-practice templates and support material and effectively disseminate to relevant NSW Government agencies, industry bodies and community groups.</td>
<td>Establish and continuously update sun protection policy/guidelines best-practice templates (including explanation of key components) and support material, with a specific focus on policies and guidelines that can cover priority populations and settings.</td>
</tr>
<tr>
<td><strong>Continue to increase capacity for the development and implementation</strong> of comprehensive sun protection policies and guidelines, which address:  - scheduling of outdoor activities  - provision of shade  - use of clothing, hats, sunglasses, sunscreen  - role modelling  - education and communication</td>
<td>Provide ongoing advice, support and resources to NSW Government agencies and relevant industry bodies for the development and implementation of effective comprehensive sun protection policies and guidelines, with a specific focus on agencies and bodies that cover priority populations and settings.</td>
<td>Review of resources available to assist relevant NSW Government agencies, industry bodies and community groups with implementation of sun protection policies/guidelines and practices – this review should include resources produced and published by other state and territory Cancer Councils, and a brief needs assessment.</td>
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Targeted actions should include:

- Working collaboratively with Safework NSW to develop effective comprehensive sun protection policies for priority industries with identified outdoor workers and other industries of relevant focus that adhere to work health safety legislation.
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<tr>
<td>Use <strong>data and information</strong> to monitor extent and quality of sun protection policies and guidelines</td>
<td>Develop and implement formal mechanisms for robust measurement of development and implementation of sun protection policies, including strength of policy.</td>
<td>Review indicators available to assess the strength of sun protection policies, including measures used in NSW, in other Australian jurisdictions and internationally.</td>
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<td>Work collaboratively with public, private and NGO sectors to measure extent and quality of sun protection policies, including:</td>
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<td>- bi-annual survey of NSW Government agencies</td>
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<td>- ongoing targeted audits of schools and territory education settings</td>
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<td>- ongoing targeted audits of State Sporting Organisations.</td>
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<td>Partner with relevant stakeholders to develop a best-practice communication plan to promote survey and audit results to public, private and NGO sectors, as appropriate.</td>
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<td>Guided by the communication plan, provide survey and audit results to relevant stakeholders.</td>
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4 Goal 2: To improve access to adequate shade

4.1 OVERVIEW

Shade can provide a protective environment and ‘good quality’ shade has been shown to reduce UVR exposure by up to 75 per cent. In line with international policies, the second goal of the NSW Skin Cancer Prevention Strategy is to ensure that all NSW have access to shade in the following priority settings:

- community
- education
- workplaces
- recreation
- healthcare services.

Achievements against shade provision under the 2012-15 Strategy were numerous and spanned the priority settings of community, education, workplaces, and recreation. Achievements made in the area of shade provision will be built upon in the Strategy.

Over the next five years, access to adequate shade by all NSW residents will be supported by:

- strategic efforts to improve awareness and understanding of what constitutes adequate shade amongst NSW residents and representatives of priority settings and populations
- strategic efforts to improve awareness and understanding of variance in shade availability, and drivers of variance, across NSW
- development and implementation of a NSW Shade Action Plan
- continued research, promotion and expansion of shade grant opportunities across key agencies and rebate programs across community, education, workplace and educational settings where available
- collaborative work with NSW Government and local governments to ensure that shade principles are included in relevant planning documents and policies so it becomes an increased priority when upgrading outdoor spaces, with specific focus on priority settings and areas frequented by priority populations
- collaborative work with relevant industry bodies to raise awareness of the importance of shade amongst urban planners and designers.

Data and information will be used to monitor and evaluate progress against this goal under the Strategy, including evaluation of individual campaigns, programs and interventions.
### 4.2 PRIORITISED ACTIONS

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<tr>
<td><strong>Continue to improve awareness and understanding of what constitutes adequate shade.</strong></td>
<td>Develop and refine benchmarks for quality, effective and well-designed shade and effectively disseminate information to NSW residents and representatives of relevant NSW Government agencies, industry bodies and community groups.</td>
<td>Conduct research and evaluation to assess the use and effectiveness of shade (natural, permanent and temporary) in a range of settings.</td>
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<td>Develop and continuously review benchmarks for quality, effective and well-designed shade, including protection factor.</td>
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<td>Continuously update Guidelines to Shade to ensure adherence with best-practice.</td>
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<td>Partner with relevant stakeholders to develop a best-practice communication plan to promote quality shade benchmarks, with a specific focus on representatives of relevant NSW Government agencies, industry bodies and community groups.</td>
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<td>Guided by the communication plan, provide benchmarks and supporting material to NSW residents and representatives of relevant NSW Government agencies, industry bodies and community groups.</td>
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<tr>
<td><strong>Continue to improve measurement of shade availability and adequacy.</strong></td>
<td>Provide advice, support and resources to relevant stakeholders to support the conduct of robust shade audits, with a specific focus on the auditing of priority settings and areas frequented by priority populations.</td>
<td>Continue to develop and refine best-practice shade assessment material, including a self-administered shade audit tool.</td>
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<td>Partner with relevant stakeholders to develop a best-practice communication plan to promote the conduct of shade audits, with a specific focus on representatives of priority settings including educational institutions and local government.</td>
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<td>Guided by the communication plan, provide shade assessment materials to NSW residents and representatives of priority settings and populations.</td>
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<td>Develop and implement a program for the conduct of shade audits and training across priority settings, with a specific focus of NSW primary schools.</td>
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<td>OBJECTIVES</td>
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<tr>
<td>Continue to increase <strong>availability</strong> of adequate shade.</td>
<td>Provide advice, support and resources (including funding) to allow for ongoing and increasing provision of adequate shade, with a specific focus on priority settings and areas frequented by priority populations.</td>
<td>Work collaboratively with key stakeholders to use findings from shade audits to develop a NSW Shade Action Plan to address inequality in availability of adequate shade across NSW, with a specific focus on priority settings and areas frequented by priority populations.</td>
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<td>Work with NSW Government and local governments to ensure that shade principles are included in relevant planning documents and policies so it becomes an increased priority when upgrading outdoor spaces, with specific focus on priority settings and areas frequented by priority populations.</td>
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<td>Work collaboratively with relevant industry bodies to raise awareness and engagement of the importance of shade amongst urban planners, designers, builders, architects and academics working in the healthy built and green space environment.</td>
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<td>Use <strong>data and information</strong> to monitor shade availability and adequacy.</td>
<td>Develop and implement formal mechanisms for robust measurement of shade availability and adequacy across NSW.</td>
<td>Undertake a rapid review to determine best-practices approaches to track access to shade at a population-level over time.</td>
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<td>Benchmark and track access to adequate shade via NSW Population Health Survey (or other measure) throughout the Strategy.</td>
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<td>Evaluate shade grant and funding schemes using pre and post quantitative data collection with control groups to assess the effectiveness and impact of shade structures.</td>
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5 Goal 3: To increase the adoption of sun protection behaviours

5.1 OVERVIEW

Australia has led the world in the development of sun-protection messages and promotional campaigns such as Slip Slop Slap, which appear to have raised public awareness, and even slowed the rates of melanoma and other skin cancer rates in younger cohorts. Despite numerous campaigns, segments of the NSW population, including adolescents, demonstrate a high incidence of risk behaviours in terms of spending long periods of unprotected time in the sun. These cohorts sometimes also continue to hold positive views about sun-seeking and tanning (12).

With this in mind, the third goal of the NSW Skin Cancer Prevention Strategy is aimed at increasing the adoption of sun protection behaviours by NSW residents, with a specific focus on the following priority populations:

- children (under 12 years of age)
- adolescents and young adults (13-24 years of age)
- adult males 40 years of age and older.

Numerous skin cancer prevention public education initiatives, including social marketing campaigns, were successfully implemented and evaluated over the 2012-15 Strategy, and these efforts will continue throughout the Strategy. These campaigns will consistently promote the adoption of best-practice sun protection behaviours and target priority populations, when possible. Skin cancer prevention public education campaigns via mass media will be supplemented by the development, refinement and dissemination of targeted skin cancer prevention resources.

Data and information will be used to monitor and evaluate progress against this goal under the Strategy, including evaluation of individual campaigns, programs and interventions.
## 5.2 PRIORITISED ACTIONS

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<thead>
<tr>
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<tbody>
<tr>
<td>Ensure that skin cancer prevention messaging across NSW sources is <strong>consistent</strong> and in line with <strong>best-practice</strong>.</td>
<td>Ongoing review of best-practice and audit of messaging from government, non-government and private sector organisations.</td>
<td>Critical analysis of literature examining best-practice sun protection behaviours, including evidence on adequate level of sun exposure for meeting vitamin D requirements. Stakeholders representing government and non-government organisations meet annually to ensure consistency in messaging prior to development and implementation of mass media public education campaigns and other interventions.</td>
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<tr>
<td>Positive change in sun protection <strong>knowledge, attitudes and behaviours</strong>.</td>
<td>Best-practice development, refinement and implementation of non-targeted and targeted skin cancer prevention mass media public education campaigns (including complimentary activities) and interventions. Targeted campaigns and interventions should cover priority populations and settings. Campaigns and interventions should cover sun protection attitudes and behaviours, including attitudes toward tanning.</td>
<td>Continued implementation, refinement and promotion of skin cancer prevention programs and interventions targeting all NSW residents. Continued implementation, refinement and promotion of whole-of-school skin cancer prevention programs and interventions, including SunSmart for Primary Schools Program. Continued implementation, refinement and promotion of skin cancer prevention programs and interventions targeting adolescent and young adults, including Pretty Shady, Wes Bonny Testimonial and Sun Sound campaigns. Continued implementation, refinement and promotion of skin cancer prevention programs and interventions targeting older males, including Improve Your Long Game social marketing strategy. Develop and disseminate skin cancer prevention resources for workplace settings that deliver complementary skin cancer prevention messages and are in line with work health and safety legislation. Work with peak sports organisations to engage officials, coaches and key sportspeople to model sun protection behaviours and encourage prudent sun protection amongst participants in recreation and community settings.</td>
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<td>Use data and information to assess the impact of public education campaigns and other interventions.</td>
<td>Develop and implement formal mechanisms for robust measurement of campaign impact, including tracking of sun exposure and protection knowledge, attitudes and behaviours amongst target audience.</td>
<td>Work with peak arts and cultural organisations to engage officials, event organisers and performers to model sun protection behaviours and encourage prudent sun protection amongst participants in recreation and community settings.</td>
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<td>Review campaign evaluation processes to ensure alignment with best-practice, including methods for directly and indirectly assessing behaviour change and sampling approach.</td>
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<td>Research into the understanding and potential use of the UV Index as an effective tool for sun protection.</td>
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<td>Directly and indirectly assess campaign impact, including via the National Sun Protection Survey (or other representative survey).</td>
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6 Implementing, monitoring and evaluating the NSW Skin Cancer Prevention Strategy

6.1 IMPLEMENTATION

The governance of the 2012-15 Strategy was carefully constructed with the aim of providing both state-wide oversight (the NSW Skin Cancer Prevention Advisory Committee) and a series of small working groups tasked with implementation of activities in a number of key focus areas.

The NSW Skin Cancer Prevention Advisory Committee (the Advisory Committee) ‘was established to coordinate the implementation of skin cancer prevention activities across NSW, particularly those identified in the Strategy and to plan future skin cancer prevention efforts in NSW’.

Representatives from a wide range of agencies and government departments were invited to join the Advisory Committee. Over the life of the 2012-15 Strategy the following seven working groups were convened by the Advisory Committee:

- Public Education Working Group
- School Education Working Group
- Workplaces Working Group
- Sport and Recreation Working Group
- Primary Care Working Group
- Shade Provision Working Group
- Research and Evaluation Working Group.

Implementation of the NSW Skin Cancer Prevention Strategy will continue to rely on collaborative efforts and partnerships led by the Advisory Committee. The number of working groups will be reduced to the following:

- Public Education Working Group
- School Education Working Group
- Workplaces Working Group
- Sport and Recreation Working Group
- Primary Care Working Group
- Shade Provision Working Group.

Research and evaluation will be covered by all working groups. Experts in research and evaluation from the Cancer Institute NSW will be available to attend working group meetings when specific advice is required. Lead NSW Government agencies will be identified for each working group. A range of collaborating agencies and non-government organisations will work alongside lead agencies to facilitate progress towards goals. The Cancer Institute NSW, in consultation with the Advisory Committee, will oversee progress of the NSW Skin Cancer Prevention Strategy.
6.2 EVALUATION AND MONITORING

In line with the approach taken for the NSW Cancer Plan, the Cancer Institute NSW, with advice from the Advisory Committee, will monitor the progress of the NSW Skin Cancer Prevention Strategy through

- development of NSW Skin Cancer Prevention Strategy Performance Index
- development of evaluation framework
- reporting of progress against goals.

Reporting against goals will be used for the regular monitoring and evaluation of the Strategy. Reports will include:

- annual progress reports on skin cancer prevention activities by Advisory Committee and working groups
- a mid-term report (2018) on impacts of the Strategy
- a final evaluation (2020) on achievements against the stated outcomes of the NSW Skin Cancer Prevention Strategy. The final evaluation will be based on program monitoring tools as well as from strategic research activities designed to supplement knowledge about skin cancer prevention issues.
Appendix 1: Priority population groups

All people in NSW are at risk of overexposure to UVR, thus the Strategy focuses on a universal, population level approach. However, to address specific risk factors some strategies may require a more targeted approach. The comprehensive approach outlined in the Strategy includes a combination of both population-level strategies and complementary strategies targeted to priority population groups and to individuals at higher risk of developing skin cancer.

The major causative factor in the development of melanoma and non-melanoma skin cancer (NMSC) is UVR exposure and for most individuals, the main source of exposure to UVR is the sun (14). An individual’s risk of skin cancer from UVR exposure is determined by:

- personal behaviours (i.e. attitudes toward tanning, intentional tanning including the use of solaria, adoption of sun protection behaviours, social and group norms, participation in outdoor activities and/or work)
- personal characteristics (i.e. skin type, hair and eye colour, number of freckles or moles, personal and family history of skin cancer, and genetic constitution) (15, 16).

Both childhood and adult exposures contribute to the risk of developing skin cancer and it is likely that both cumulative and episodic exposures are important (11, 17, 18). Regular and frequent exposure (commonly occupational) increases the risk of squamous cell carcinoma (SCC), while more ‘intermittent’ exposure to UVR (commonly recreational and to parts of the skin usually covered on most days) increases the risk of basal cell carcinoma (BCC) and melanoma (14). There is growing evidence that relative risk of melanoma increases with cumulative UVR exposure and thus that overexposure later in life continues to add to the risk of developing melanoma (17, 18). Solaria use, particularly before the age of 35 years and more frequent use, increases a person’s risk of developing melanoma (19).

PRIORITY POPULATION GROUPS

Children (under 12 years of age)

Children are a key priority group for sun protection since the risk of developing melanoma and other skin cancers are strongly related to spending childhood in a high UVR environment, such as in NSW. Childhood is also associated with the development of melanocytic nevi (moles) which are a risk factor for melanoma. Those responsible for the care of children, particularly parents and care providers, have a direct role to play in achieving adequate sun protection for children. This highlights the need for targeted interventions to model appropriate sun protection behaviours and create protective environments.

Adolescents and young adults (13–24 years of age)

In adolescent years parental influence tends to diminish while peer influence and broader social norms play an increasingly important role in shaping attitudes and behaviours. Adolescents and young people generally adopt UVR protection behaviours less frequently than adults and it is more challenging to achieve attitude and behaviour changes among teenagers (20). Adolescents spend more time in the sun than any other age group. While they have been shown to have a high level of knowledge of the dangers of sun exposure, they engage in relatively fewer UVR protection behaviours. Particular interventions are required to address young people’s perception of sun tanning as desirable.

Adult males (40 years of age and older)

There is growing evidence that relative risk of melanoma increases with UVR exposure in later life (17, 18). The incidence of melanoma increases dramatically for males from around 45 years of age and of further concern is the statistically significant 11 per cent increase in male mortality rates from melanoma reported for the period 1999–2008 (13). This increasing evidence suggests older adults, particularly males, should be targeted with specific UVR protection strategies, in addition to workplace strategies, from the age of 40 years, if not earlier.
High risk individuals

People at higher risk of melanoma include individuals who:

- are light-skinned, always or usually burn in the sun and rarely or never tan or are classified as Skin Type I and II under the Fitzpatrick Skin Photo Type Classification system
- have more than a few moles
- have lived in Australia from childhood
- have a personal history or family history of skin cancer, especially melanoma
- use solaria or other artificial tanning devices that emit UVR
- have high levels of recreational sun exposure (particularly for melanomas on parts of the body that are mainly exposed recreationally)
- work outdoors (specifically for melanomas on parts of the body usually exposed to the sun when working outdoors).

Of these, all are also factors that predict a higher risk of other skin cancers except having more than a few moles and a personal or family history of melanoma. In addition, squamous cell carcinomas of the skin are more associated with occupational exposure and basal cell carcinomas appear more strongly associated with recreational exposure.

NOTE ON CULTURALLY AND LINGUISTICALLY DIVERSE COMMUNITIES

The risk of developing skin cancers is strongly associated with skin type (21). People with fairer skin which burns easily are at higher risk than those with darker skin (see Figure 1).

Figure 1: Skin types

<table>
<thead>
<tr>
<th>Skin reaction to the sun</th>
<th>What you need to know</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TYPE I</strong></td>
<td>Always burns easily, never tans, extremely sun sensitive</td>
</tr>
<tr>
<td><strong>TYPE II</strong></td>
<td>Always burns easily, tans minimally, very sun sensitive</td>
</tr>
<tr>
<td><strong>TYPE III</strong></td>
<td>Sometimes burns, tans gradually to light brown, minimally sun sensitive</td>
</tr>
</tbody>
</table>

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6 Fitzpatrick Skin Photo Type classification system means a system for the classification of skin photo types, as referred to in Australian and New Zealand Standard entitled AS/NZS 2635:2008, Solaria for cosmetic purposes.
Figure 2 shows melanoma incidence and mortality rates in NSW by region of birth and highlights that people born in Australia are significantly more likely to develop and die from melanoma than people born in all other regions. People born in Southern Europe, Asia or the Middle East are significantly less likely to develop and die from melanoma (22).

Figure 2: Melanoma incidence by region of birth

A targeted approach to CALD communities was considered for the Dark Side of Tanning campaign in 2007/08. At that time the NSW Multicultural Health Communications Service advised that the campaign did not warrant the translation of campaign materials into languages other than English because high risk
(fair skin/burn easily) groups with low English proficiency could not be identified. Based on the most recent melanoma incidence and mortality data this approach remains true.

Figure 3 compares the four Local Government Areas (LGAs) with the highest and lowest rates of melanoma (23) with the percentage of people who speak a language other than English/percentage of people born overseas in those same areas (24). There is clearly a steep decline in rates of melanoma as multilingualism and diversity, in regards to place of birth, increases. The makeup of the immigrant population across the eight LGAs also varies greatly with the largest proportion in the suburbs with the highest rates of melanoma being from North-Western Europe and the largest proportion in the suburbs with the lowest rates of melanoma being from North Africa/the Middle East and/or South-East, North-East or Southern/Central Asia (24).

Figure 3: Local Government Areas (LGAs) with the highest and lowest rates of melanoma

Given the extremely low rates of skin cancer amongst the most populous CALD communities in NSW (and even lower in those with low English proficiency), CALD populations are not currently identified as a priority population for skin cancer prevention in NSW.

NOTE ON ABORIGINAL AND TORRES STRAIT ISLANDER COMMUNITIES

Melanoma is less common amongst Aboriginal and Torres Strait Islander people than the rest of the Australian population, with 9.30 cases per 100,000 compared to 33 cases per 100,000 for non-Aboriginal and Torres Strait Islander people (25).

This low incidence is primarily due to protection provided by the increased epidermal melanin in darker-coloured skin that filters twice as much UVR as fairer skin (26).

While incidence of melanoma in Aboriginal and Torres Strait Islander people is one-quarter of that for other Australians, the incidence to mortality rate is higher, with 28 per cent of Aboriginal and Torres Strait Islander people diagnosed with melanoma dying, compared to 19 per cent for other Australians (27). This suggests that Aboriginal and Torres Strait Islander people more commonly present with an advanced stage of melanoma (26) or have less access to health services (28).

It should be noted that the analysis discussed above draws on a limited sample, with only 60 people being diagnosed with melanoma identifying as Aboriginal or Torres Strait Islander in a four year period (2004-2008). The Indigenous status is not stated for a large proportion of those people diagnosed (41 per cent) (27).

Given the lower rate of melanoma amongst Aboriginal and Torres Strait Islander people, they are not currently identified as a priority population for skin cancer prevention in NSW.
Appendix 2: Priority settings

Australia’s proximity to the equator means that solar UVR levels in NSW are very high (15, 16). Within NSW there are physical and social environments that influence exposure to UVR and UVR protection behaviours. It is important to acknowledge these environments not only influence the structural elements of UVR exposure and protection, such as the provision of shade, but also the social elements such as norms about sun exposure and supports for sun protection behaviours. These environments are categorised into five priority settings:

**Community settings:** the built environment has a significant role in community settings as it includes the design of the buildings and streets in which people live.

**Education settings:** education settings include but are not limited to the institutions in which people study. Education institutions, including early childhood centres, primary schools, secondary schools and TAFEs and universities, have great potential for influencing UVR exposure and protection behaviours, particularly early in life.

**Workplace settings:** different industries influence sun exposure and protection behaviours with workers in the construction and farming industries spending significant times outdoors, particularly during peak UVR hours. Other industries in which workers spend significant times indoors may influence sun exposure behaviours in non-working times.

**Recreational settings:** there are a broad range of recreational settings in which there is potential to influence UVR exposure and protection behaviours. Parks, sporting grounds, beaches, public swimming pools and tourism destinations are just a few of these settings where UVR protection action should be considered.

**Healthcare settings:** there are a range of health services including but not limited to general practice, pharmacies, allied health services (eg. physiotherapy and massage therapy), and community and health promotion services which provide opportunities to identify individuals at high risk of developing skin cancer and for educating people about the risk of UVR exposure and ways to minimise that risk through UVR protection behaviours.

**High-risk geographical settings:** Within NSW there is considerable regional variation in melanoma rates. For both sexes, higher incidence rates occur along the coast and these rates are generally higher in the north of the State. In 2008, melanoma incidence was significantly higher amongst residents of Northern Sydney, Central Coast, Hunter and New England, Mid North Coast and Northern Local Health Districts (29).
Appendix 3: Strategic partnerships

Five key domains for strategic partnerships have been identified for an integrated approach to skin cancer prevention activities in NSW.

**Forming strategic alliances with a range of relevant sectors:** There are many individuals and agencies whose work directly or indirectly influences skin cancer prevention. This includes work at the local community level and in state and national programs, and those working in research. For example, many stakeholder agencies in NSW are developing initiatives designed to influence healthy built environments, promote sport and other outdoor recreation activities and to encourage the community to engage with their natural environment. Harnessing their support and engagement through collaborative partnership opportunities will add value to these current efforts, create opportunities for the integration of skin cancer prevention within other population health strategies, manage the system changes required to deliver policy and enable efficiencies in terms of achieving improved health outcomes (including skin cancer prevention) for people in NSW.

**Engaging industry for sun protection behaviours:** The media, fashion and skin care industries are key influencers in setting social norms around UVR protection behaviours for skin cancer prevention. Mutually beneficial opportunities will be sought with government, non-government organisations and industry partners to achieve positive change in these norms. Working in partnership with other jurisdictions to encourage national skin cancer prevention collaborations with relevant industries will enable efficiencies in relation to effort and resources invested in this area.

**Engaging individuals, families and communities in skin cancer prevention actions:** There have been favourable changes over time in the community’s beliefs and attitudes to UVR protection and in some UVR protection practices. It is important that there is sustained effort to deliver consistent public health messages that improve understanding of the risk of overexposure to UVR and its possible effects. These messages must reach high risk individuals and families as well as mobilise all communities across NSW to take local action. This may be done through community champions and key influencers and access to information and measures to support the adoption and normalisation of UVR protection practices.

**Implementing UVR protection policies and practices for priority settings in the NSW community:** A range of UVR protection policies and guidelines have been developed to support the provision of shade and to reinforce UVR protection practices in priority settings across NSW. Future policy action requires top-down and bottom-up approaches to improve implementation of policy in practice.

**Forming strategic alliances across all layers of government:** Local, state and federal to enable program collaborations and efficiencies in program investments. Key stakeholders in skin cancer prevention include a range of government agencies at the local, state and national level. Actions that raise the profile of skin cancer prevention and the co-benefits of integrating UVR protection messages and programs into the core business of these government sectors are important for a comprehensive approach to skin cancer prevention for NSW.
Appendix 4: Other considerations

The primary purpose of the Strategy is to address the skin cancer risks for individuals in NSW due to overexposure to UVR through primary prevention measures. To this end the Strategy does not include activities for addressing issues associated with the community’s requirements for vitamin D synthesis for good health, or the early diagnosis of skin cancers for reduced mortality.

VITAMIN D

Solar UVR is both the major cause of skin cancer and the best source of vitamin D. There is no single universal recommendation around adequate levels of sun exposure for meeting vitamin D₃ requirements (30). Appropriate UVR protection does not put people at risk of vitamin D deficiency. Balancing messages about the risk of skin cancer from too much sun exposure with maintaining adequate vitamin D levels has been and remains a challenge for skin cancer prevention programs in NSW, Australia and in other countries. This issue may be explored further in conjunction with activities in the Strategy, such as the consistency of skin cancer prevention messages.

EARLY DIAGNOSIS

Melanomas that are less than 1mm thick rarely threaten life. Survival after a diagnosis of melanoma decreases, however, with increasing melanoma thickness. To reduce mortality, knowledge about skin changes that may indicate development of melanoma and characteristics associated with melanoma depth is needed. In 2008 the Australian Cancer Network Melanoma Guidelines Revision Working Party released the report, Clinical Practice Guidelines for the Management of Melanoma in Australia and New Zealand (31). These Guidelines report that early diagnosis of melanoma is essential and that skin screening, defined as a visual inspection of the whole body, may be one method of achieving it. There is, however, very limited evidence to support the value of skin screening. As more evidence is required to assess the optimal approach to guidelines for skin cancer screening, the identification of specific activities for early diagnosis of skin cancer has not been included in this Strategy. Enhancing the role of the primary care sector in cancer control is a goal of the Cancer Plan and a range of activities have been outlined by the Cancer Plan for achieving this.
References