NSW Skin Cancer Prevention Strategy

Working together to lessen the impact of skin cancer in NSW
Acknowledgements

The NSW Government would like to acknowledge and thank the consumers, consumer groups and organisations, health care professionals, specialist care services, cancer charities, research institutions, professional associations, local governments, government agencies and non-government organisations for the time and expertise they contributed to the development of both the NSW Skin Cancer Prevention Strategy 2012–15 and the current NSW Skin Cancer Prevention Strategy, particularly:

- Aboriginal Health & Medical Research Council NSW
- Australian Centre for Agricultural Health and Safety, The University of Sydney
- Australian College of Rural and Remote Medicine
- Association of Independent Schools of NSW
- Cancer Council Australia, National Skin Cancer Committee
- Cancer Council NSW
- Cancer Council Victoria
- Carroll Communications
- Catholic Education Commission of NSW
- Destination NSW
- General Practice NSW
- Health Promotion Agency – New Zealand
- Local Government and Shires Associations of NSW
- Melanoma Institute Australia
- Melanoma Patients Australia
- NSW Department of Education
- NSW Department of Planning and Environment:
  - Office of Local Government
  - Office of Environment and Heritage
- NSW Environmental Protection Agency
- NSW Health, Local Health Districts
- NSW Ministry of Health
- NSW Primary Principals’ Association Inc.
- NSW Secondary Principals’ Council
- Surf Life Saving NSW
- University of Sydney, Sydney School of Public Health
- University of NSW, Healthy Built Environment Program
- SafeWork NSW
- Skin and Cancer Foundation
- Sports Medicine Australia
- The Federation of Parents and Citizens’ Associations of NSW
- Urbis

NSW Skin Cancer Prevention Strategy

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In November 2012, the release of the first NSW Skin Cancer Prevention Strategy 2012–15 signalled a landmark commitment to skin cancer prevention at a statewide level. It delivered, for the first time, a comprehensive plan for a coordinated response to the primary prevention of skin cancer in NSW; a disease so prevalent, it is often referred to as ‘our national cancer’.

Much has been achieved over the life-span of the 2012–15 Strategy, but skin cancer continues to be a challenge in Australia, representing around 80 per cent of all newly-diagnosed cancers and costing the health system more to treat than any other form of cancer.

I am delighted to release this latest NSW Skin Cancer Prevention Strategy, a comprehensive plan for further reducing the burden of skin cancer on the lives of people in NSW.

This Strategy will continue to drive and support collaborative partnerships between a diverse group of government and non-government stakeholders, providing well-defined common goals and the means to monitor and report progress.

The strategies and prioritised actions build on the considerable work that has already been done to encourage behavioural, policy and environmental change, with the ultimate aim of reducing the incidence of skin cancer in NSW.

We look forward to working with all our valued partners in skin cancer prevention to implement the Strategy over the coming years.

The Hon. Brad Hazzard MP
Minister for Health
Minister for Medical Research
Introduction from the Chief Cancer Officer, NSW

Skin cancer is one of the most common cancers in the world. Both the highest levels of ultraviolet radiation (UVR) and the highest incidence rates of skin cancer worldwide can be found in Australia and New Zealand, where two out of every three people are likely to be diagnosed in their lifetime.

The impact of skin cancer, both in the number of people affected and in the costs to our health system, is significant. A recent study published a conservative estimate of $536 million in lifetime costs for the 150,000 cases of skin cancer diagnosed in the state in 2010.

However, skin cancer has been found to be one of the most preventable cancers. In Australia, overexposure to UVR is the cause of around 99 per cent of non-melanoma skin cancers and 95 per cent of melanoma skin cancers.

This fact underpins the need for an ongoing investment in programs that prioritise the primary prevention of skin cancer, encouraging sun protection behaviours across a range of populations and priority settings. A reduction in overexposure to UVR for the people of NSW continues to be a key objective of the NSW Cancer Plan.

The development of the NSW Government’s second NSW Skin Cancer Prevention Strategy for the state represents that ongoing commitment. This Strategy will continue to provide an essential blueprint for collaborative action on skin cancer prevention in NSW and will guide our activities and support and strengthen strategic partnerships over the coming years.

Over the life-span of the first NSW Skin Cancer Prevention Strategy 2012–15, there was a great deal achieved to contribute to a reduction in overexposure to harmful UVR for the people of NSW, including:

- the introduction of a total ban on the commercial use of tanning beds
- a continued investment in mass community awareness campaigns
- the introduction of new skin cancer prevention policies and guidelines to support schools and community groups
- the expansion of grants programs and rebates resulting in more than 200 shade grants being awarded between 2012 and 2015.

Critical to these achievements has been the establishment of strategic relationships and effective communication between partners from all levels of government, non-government organisations and communities, which are active in a wide variety of population and community settings. A key initiative in driving and supporting these collaborative partnerships was the establishment of the NSW Skin Cancer Prevention Advisory Committee as well as a number of cross-sectoral working groups.

While our progress has been substantial, there is still much to be done. The continuation of these important relationships under the new Strategy will be the key to its success and will provide opportunities for more strategic and targeted activities into the future.

We look forward to working with you to reduce the burden of this disease on the community.

Professor David Currow FAHMS
Chief Cancer Officer, NSW
Chief Executive Officer, Cancer Institute NSW
NSW Skin Cancer Prevention Strategy
Skin cancer in New South Wales

The incidence and impact of skin cancer

Australia has the second-highest rate of skin cancer in the world and most Australians are at risk. Overexposure to UVR 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 UVR, such as sunbeds
- a family history of melanoma.²

In 2018, around 4,900 people are expected to be diagnosed with melanoma in NSW, and that figure is projected to increase to approximately 6,000 in 2021.⁴

The lifetime cost of the 150,000 incident cases of skin cancer (melanoma and non-melanoma) diagnosed in NSW in 2010 is estimated to be around $536 million. Direct costs account for 72 per cent of costs and indirect costs accounting for 28 per cent of costs.⁵

In 2018, around 4,900 people in NSW are expected to be diagnosed with melanoma. That figure is projected to increase to approximately 6,000 in 2021.
While skin cancer is the second-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. 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**
  Choose shirts with collars, high necks and sleeves and trousers, or longer shorts and skirts that fall below the knees.

- **Slop on 30+ broad-spectrum water-resistant sunscreen**
  Apply generously 20 minutes before going outside and re-apply every two hours. Never rely on sunscreen alone.

- **Slap on a broad-brimmed hat that protects your face, ears and neck**
  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.

- **Seek shade whenever you can**
  It is especially important to seek shade when UV levels are highest between 10am and 2pm (11am and 3pm during daylight saving).

- **Slide on wrap-around sunglasses.**
  These sunglasses should meet Australian Standard AS1067 and fit your face well.

Skin cancer public education campaigns have gone some way to reducing the morbidity, mortality and economic burden of skin cancer. For example, a recent cost–benefit analysis of three skin cancer public education campaigns revealed that, for every $1 invested in public education campaigns, a return of $3.85 is achieved.7
The Cancer Institute NSW

Our mission
Working together to lessen the impact of cancers. We work in partnership with the community, people affected by cancer, health professionals, governments and non-government 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 below are guided by the Cancer Institute (NSW) Act 2003:

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 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 statewide 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.
The NSW Skin Cancer Prevention Strategy 2012–2015

**NSW 2021**

**Goal II:** Keep people healthy and out of hospital

**NSW Cancer Plan 2011–15**

**Goal I:** To reduce the incidence of cancer (through improving modifiable risk factors)

**Objective:** To reduce overexposure to ultraviolet radiation

**Strategies:** Behaviour modification, protective environments, UV protection policy

**NSW Skin Cancer Prevention Strategy 2012–15**

**Purpose:** Reduce overexposure to ultraviolet radiation

**Priority areas:** UVR protection policy, shade provision, UVR protection behaviours, strategic research

**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:

1. **Priority Area 1:** UVR Protection Policy
2. **Priority Area 2:** Shade Provision
3. **Priority Area 3:** UVR Protection Behaviour
4. **Priority Area 4:** Strategic Research
Key achievements

Achievements for each of the priority areas over the period of the 2012–15 Strategy were numerous and wide-reaching.

- Implemented skin cancer prevention public education activities reaching children, adolescents and young adults, and older men (all priority populations in the Strategy) and the broader community.
- Increased the proportion of Cancer Council NSW SunSmart primary schools from 37% at 2012 to 79% at 2015.
- Introduced a mandatory sun protection policy requirement as a condition of funding under the NSW Office of Sport, Sports Development Program from June 2014.
- Reviewed and updated the Guidelines to Shade (formerly The Shade Handbook) by the Cancer Council NSW.
- Reduced the number of solaria legally operating in NSW from 200 in 2013 to zero at 2015.
- Promoted and expanded shade grants and rebates across community, education, workplace and recreational settings, resulting in more than 200 shade grants being awarded across the life of the Strategy.
- Increased adoption of sun protection behaviours among adolescents, young adults, and the broader community between 2011 (pre-strategy) and 2014 (post-strategy implementation).
The NSW Skin Cancer Prevention Strategy

NSW 2021: A plan to make NSW number one

Goal 11: Keep people healthy and out of hospital
Goal 12: Provide world-class clinical services with timely access and effective infrastructure

NSW State Health Plan: Towards 2021

Direction 1: Keeping people healthy
Direction 2: Providing world-class clinical care
Direction 3: Delivering truly integrated care

NSW Cancer Plan

Goal 1: To reduce the incidence of cancer
Goal 2: To increase the survival of people with cancer
Goal 3: To improve the quality of life of people with cancer

Objective 2: Reduce overexposure to ultraviolet radiation

NSW Skin Cancer Prevention Strategy

Goal 1: To increase implementation of comprehensive and effective sun protection policies and guidelines
Goal 2: To improve access to adequate shade
Goal 3: To increase the adoption of sun protection behaviours
The NSW Cancer Plan

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

The *NSW State Health Plan: Towards 2021* is the NSW Government’s blueprint for action to implement its agenda. The Plan affirms the importance of the Cancer Institute NSW as one of its pillar agencies, and promotes the development of the *NSW Cancer Plan* and the NSW Skin Cancer Prevention Strategy as mechanisms for improving outcomes for patients and the community.9

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 coordinated, collaborative approach to reducing the burden of cancers in NSW. This plan has been specifically developed as a cross-government, statewide plan and provides the opportunity to strengthen existing partnerships and develop new ones to work together to lessen the impact of cancers.10

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 its goals. Three objectives are included under Goal 1, including:

**Objective 2:** Reduce overexposure to ultraviolet radiation.11

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**NSW Cancer Plan: Goal 1 – Reduce the incidence of cancer**

<table>
<thead>
<tr>
<th>Objective</th>
<th>Strategies</th>
<th>Prioritised actions</th>
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<tr>
<td>Reduce overexposure 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 NSW Skin Cancer Prevention Strategy, including social marketing programs that target priority populations.</td>
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<td>• 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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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 UVR, 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 and 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 these 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.

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)
- adult males 40 years of age and older.

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
- 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
- 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 from melanoma for the period 1999–2008.
Priority settings

The 2012–15 Strategy acknowledged that alongside health settings, it is also where and how people live, learn, work and play that 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.
- **Health care services**: General practice, pharmacies, allied health service providers, community health, health promotion services.

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 new NSW Skin Cancer Prevention Strategy.

Development of the NSW Skin Cancer Prevention Strategy

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

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

Current Skin Cancer Advisory Committee member organisations:

- Association of Independent Schools of NSW
- Cancer Council NSW
- Cancer Institute NSW
- Catholic Education Commission of NSW
- Environment Protection Authority
- Melanoma Institute Australia
- NSW Department of Education
- NSW Ministry of Health
- NSW Office of Sport
- SafeWork NSW
- Skin and Cancer Foundation
NSW Skin Cancer Prevention Strategy

To reduce the incidence of skin cancer in NSW

Vision

Public sector, private sector and the community sharing responsibility and working effectively together to reduce the incidence of skin cancer in NSW

Priority populations

Children • Adolescents and young adults • Adult males over 40 years of age

Goals

To increase implementation of comprehensive and effective sun protection policies and guidelines

To improve access to adequate shade

To increase the adoption of sun protection behaviours

Objectives

• Improve awareness and understanding of what constitutes comprehensive and effective 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 the 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 messaging is consistent and in line with best practice.

• Promote 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 settings

Community • Education • Workplaces • Recreation • Health care services

Guiding principles

Public sector, private sector and the 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
Goal 1: To increase implementation of comprehensive and effective sun protection policies and guidelines

1.1 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 comprehensive and effective sun protection policies and guidelines, which address:

- scheduling of outdoor activities
- provision of shade
- use of clothing, hats, sunglasses and 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

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.

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 comprehensive and effective sun protection policies among NSW Government agencies and relevant industry bodies
- increased and targeted support for NSW Government agencies and relevant industry bodies to develop and implement comprehensive and effective 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.

### 1.2 Prioritised actions

<table>
<thead>
<tr>
<th>Objectives</th>
<th>Strategies</th>
<th>Prioritised actions</th>
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<tr>
<td>Continue to improve awareness and understanding of what constitutes comprehensive and effective sun protection policies and guidelines.</td>
<td>Develop and refine sun protection policies, 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 policies, 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>
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<td>Partner with relevant stakeholders to develop a best-practice communication plan to promote relevant templates to relevant NSW Government agencies, industry bodies and community groups.</td>
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<td>Guided by the communication plan, provide templates and supporting material to relevant NSW Government agencies, industry bodies and community groups.</td>
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<tr>
<td>Objectives</td>
<td>Strategies</td>
<td>Prioritised actions</td>
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| Continue to increase capacity for the **development and implementation** of comprehensive and effective sun protection policies and guidelines, which address:  
  - scheduling of outdoor activities  
  - provision of shade  
  - use of clothing, hats, sunglasses and sunscreen  
  - role modelling  
  - education and communication | Provide ongoing advice, support and resources to NSW Government agencies and relevant industry bodies for the development and implementation of comprehensive and effective sun protection policies and guidelines, with a specific focus on agencies and bodies that cover priority populations and settings. | 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. |

Develop, implement and evaluate evidence-based materials and programs to assist NSW Government agencies, industry bodies and community groups with the development and implementation of comprehensive and effective sun protection policies and guidelines, including:  
- step-by-step guides specific to industries and settings  
- opportunities for education and training  
- monitoring frameworks  
- communication strategies.  

Targeted actions should include:  
- working collaboratively with SafeWork NSW to develop comprehensive and effective sun protection policies for priority industries with identified outdoor workers and other industries of relevant focus that adhere to work health and safety legislation  
- working collaboratively with the NSW Department of Education and Cancer Council NSW to review, refine and promote the *Sun Safety for Students Guidelines* and support materials on an ongoing basis  
- working collaboratively with the NSW Department of Education for ongoing review, refinement and promotion of the *SunSmart for Primary Schools Program*  
- continuing specific efforts to increase development and implementation of best-practice sun protection policies for State Sporting Organisations through:  
  - forming and fostering strategic relationships  
  - including a mandatory sun protection policy requirement as a condition of application for funding grants, including Sports Development Program grants.
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<th>Objectives</th>
<th>Strategies</th>
<th>Prioritised actions</th>
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</thead>
<tbody>
<tr>
<td>Use <strong>data and information</strong> to monitor the 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 the strength of a policy.</td>
<td>Review indicators available to assess the strength of sun protections policies, including measures used in NSW, in other Australian jurisdictions and internationally.</td>
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<tr>
<td></td>
<td>Review indicators available to assess the strength of sun protections policies, including measures used in NSW, in other Australian jurisdictions and internationally.</td>
<td>Work collaboratively with the 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 tertiary education settings</td>
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<td>• ongoing targeted audits of State Sporting Organisations.</td>
</tr>
<tr>
<td></td>
<td>Partner with relevant stakeholders to develop a best-practice communication plan to promote survey and audit results to the public, private and NGO sectors, as appropriate.</td>
<td>Guided by the communication plan, provide survey and audit results to relevant stakeholders.</td>
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Goal 2: To improve access to adequate shade

2.1 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 NSW has access to shade in the following priority settings:

- Community
- Education
- Workplaces
- Recreation
- Health care services

Achievements against shade provision under the 2012–15 Strategy were numerous and spanned the priority settings of community, education, workplaces and recreation. These achievements will be built upon in this new 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 among NSW residents and representatives of priority settings and populations
- strategic efforts to improve awareness and understanding of variation 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 recreational settings, where available
- collaborative work between the 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 a 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 among 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.
## 2.2 Prioritised actions

<table>
<thead>
<tr>
<th>Objectives</th>
<th>Strategies</th>
<th>Prioritised actions</th>
</tr>
</thead>
<tbody>
<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></td>
<td>Develop and continuously review benchmarks for quality, effective and well-designed shade, including ultraviolet protection factor (UPF).</td>
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<td>Continuously update Guidelines to Shade to ensure adherence with best practice.</td>
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<td></td>
<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>
</tr>
<tr>
<td></td>
<td></td>
<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>
</tr>
<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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<tr>
<td></td>
<td></td>
<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></td>
<td></td>
<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 on NSW primary schools.</td>
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<tr>
<td>Objectives</td>
<td>Strategies</td>
<td>Prioritised actions</td>
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<tr>
<td>Continue to increase availability 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 <em>NSW Shade Action Plan</em> 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></td>
<td>Work collaboratively with relevant industry bodies to raise awareness and engagement of the importance of shade among urban planners, designers, builders, architects and academics working in the healthy built environments.</td>
<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>
</tr>
<tr>
<td></td>
<td>Use data and information to monitor shade availability and adequacy.</td>
<td>Work collaboratively with relevant industry bodies to raise awareness and engagement of the importance of shade among urban planners, designers, builders, architects and academics working in the healthy built environments.</td>
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<td></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-practice 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></td>
<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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</table>
Goal 3: To increase the adoption of sun protection behaviours

3.1 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, however, segments of the NSW population (including adolescents) demonstrate a higher incidence of risky 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.

### 3.2 Prioritised actions

<table>
<thead>
<tr>
<th>Objectives</th>
<th>Strategies</th>
<th>Prioritised actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ensure that skin cancer prevention messaging across NSW sources is consistent and in line with best practice.</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 the 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>
</tr>
<tr>
<td>Objectives</td>
<td>Strategies</td>
<td>Prioritised actions</td>
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<tr>
<td>Positive change in sun protection knowledge, attitudes and behaviours.</td>
<td>Best-practice development, refinement and implementation of non-targeted and targeted skin cancer prevention mass media public education campaigns (including complementary activities) and interventions.</td>
<td>Continued implementation, refinement and promotion of skin cancer prevention programs and interventions targeting all NSW residents.</td>
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<td></td>
<td>Targeted campaigns and interventions should cover priority populations and settings.</td>
<td>Continued implementation, refinement and promotion of whole-of-school skin cancer prevention programs and interventions, including the SunSmart for Primary Schools Program.</td>
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<td>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 adolescent and young adults, including the <em>Pretty Shady</em>, <em>Your Time in the Sun</em> and testimonial-style campaigns.</td>
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<td></td>
<td>Use data and information to assess the impact of public education campaigns and other interventions.</td>
<td>Continued implementation, refinement and promotion of skin cancer prevention programs and interventions targeting older males, including <em>Improve Your Long Game</em> social marketing strategy.</td>
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<td></td>
<td>Develop and implement formal mechanisms for robust measurement of campaign impact, including tracking of sun exposure and protection knowledge, attitudes and behaviours among target audiences.</td>
<td>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.</td>
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<td></td>
<td>Review campaign evaluation processes to ensure alignment with best practice, including methods for directly and indirectly assessing behaviour change and sampling approach.</td>
<td>Work with peak sports organisations to engage officials, coaches and key sportspeople to model sun protection behaviours and encourage prudent sun protection among participants in recreation and community settings.</td>
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<td></td>
<td>Research into the understanding and potential use of the UV Index as an effective tool for sun protection.</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></td>
<td>Directly and indirectly assess campaign impact, including via the <em>National Sun Protection Survey</em> (or other representative survey).</td>
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</table>
Working together to lessen the impact of skin cancer in NSW
Implementing, monitoring and evaluating the *NSW Skin Cancer Prevention Strategy*

**Implementation**

The governance of the 2012–15 Strategy was carefully constructed with the aim of providing both statewide 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.

**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 a NSW Skin Cancer Prevention Strategy Performance Index
- development of an evaluation framework
- reporting 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 member organisations and working groups
- a mid-term report (2018) on impacts of the Strategy
- a final evaluation (2020) on the 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. For most individuals, the main source of exposure to UVR is the sun. 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)

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. 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. There is growing evidence that relative risk of melanoma increases with cumulative UVR exposure and thus, overexposure later in life continues to add to the risk of developing melanoma. Solaria use, particularly before the age of 35 years and more frequent use, increases a person’s risk of developing melanoma.

Priority population groups

Children (under 12 years of age)

Children are a key priority population 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 ensuring 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. 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.\textsuperscript{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.\textsuperscript{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, SCCs of the skin are more strongly associated with occupational exposure and basal cell carcinomas appear more strongly associated with recreational exposure.

* 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.

Note on culturally and linguistically diverse communities

Figure 1 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 of the world. People born in Southern Europe, Asia or the Middle East are significantly less likely to develop and die from melanoma.\textsuperscript{22}

Figure 1: Melanoma incidence by region of birth

Melanoma — age standardised incidence rates

Persons, 2006–2010, by region of birth
The risk of developing skin cancers is strongly associated with skin type. People with fairer skin that burns easily are at higher risk than those with darker skin (see Figure 1).

**Figure 2: 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>
<tr>
<td><strong>Type IV</strong></td>
<td>Burns minimally, always tans to moderate brown, minimally sun sensitive</td>
</tr>
<tr>
<td><strong>Type V</strong></td>
<td>Rarely burns, tans well, skin not sensitive to sun</td>
</tr>
<tr>
<td><strong>Type VI</strong></td>
<td>Never burns, deeply pigmented, skin not sensitive to sun</td>
</tr>
</tbody>
</table>

**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 with 33 cases per 100,000 for non-Aboriginal and Torres Strait Islander people. 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.

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 with 19 per cent for other Australians. This suggests that Aboriginal and Torres Strait Islander people more commonly present with an advanced stage of melanoma or have less access to health services.

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%).

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. 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, 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 time indoors may influence sun exposure behaviours in non-work hours.

**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 (e.g. physiotherapy and massage therapy), and community and health promotion services which provide opportunities to identify individuals at high risk of developing skin cancer, and educate people about the risk of UVR exposure and ways to minimise that risk through UVR protection behaviours.

**High-risk geographical settings:** Across 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 2008–2012, melanoma incidence was significantly higher amongst residents of Northern Sydney, Central Coast, Hunter New England, Mid North Coast and Northern NSW Local Health Districts.
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 government alliances have been created 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.27 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.28 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 NSW Cancer Plan, and a range of activities have been outlined by the NSW Cancer Plan for achieving this.
References


