MelNet

SKIN CANCER PREVENTION AND EARLY DETECTION STRATEGY

2024 - 2028

Prepared for New Zealand by the Melanoma Network of New Zealand Incorporated

INTRODUCTION

New Zealand has one of the highest skin cancer incidence and mortality rates in the world, with eight out of every ten cancers being diagnosed as skin cancer.

This isn't just a statistic; it's a stark reality that affects individuals, families, and the healthcare system alike.

Every year, tens of thousands of lives are altered, hundreds of loved ones are lost and millions of dollars are spent treating these cancers that are almost entirely preventable and highly survivable.

Research shows the most effective ways to reduce the incidence and impact of skin cancer are by minimising exposure to ultraviolet radiation (UVR) and detecting it early before it can spread.

But achieving this requires urgent and sustained action, and the collective effort of many - local and central government, non-Government organisations, healthcare professionals, workplaces, schools, communities, and individuals all have a role to play.

This Strategy has been developed as a roadmap to steer us towards a healthier future. Its recommendations align with the objectives of broader Government health plans and other national organisations, and draw on learnings from the very successful Australian SunSmart programme which has been operating for over 40 years.

With the burden of skin cancer in New Zealand rising each year, the implementation of this Strategy is both timely and essential.

Together, we can make a difference.

Skin Cancer Prevention And Early Detection Strategy 2024 - 2028

SUMMARY

This Strategy aims to reduce the incidence and impact of skin cancer in New Zealand by strengthening prevention and early detection efforts.

It targets all New Zealanders, with a focus on populations and settings that are most at risk.

The Strategy outlines 12 key recommendations:

1. Establish a comprehensive, multi-sectoral, nationally co-ordinated skin cancer prevention and early detection programme.
2. Provide all health professionals working in New Zealand with structured training in the prevention and early detection of skin cancer.
3. Develop a nationally consistent triage and audit service for the early detection and management of skin cancer that involves both primary and secondary care.
4. Plan and deliver public education campaigns that promote sun safety and early detection, and evaluate their reach and impact.
5. Adopt World Health Organization recommended sun protection guidelines in all education settings.
6. Mandate and enforce sun protection policies for workplaces with workers who work outdoors.
7. Adopt sun protection policies in sports settings where participants are exposed to high levels of solar ultraviolet radiation.
8. Integrate sun protection into planning for outdoor recreation areas where people congregate.
9. Increase access and affordability of high-quality sun protection products.
10. Review existing sun protection guidelines and related position statements to ensure they reflect latest research and are consistent across platforms.
11. Implement an outright ban on the importation, manufacture, sale and rental of sunbeds for commercial or private use.
12. Ensure all skin cancer prevention and early detection interventions are informed by robust research and quality data.

ABOUT SKIN CANCER

Skin cancer is the uncontrolled growth of abnormal cells in the skin. There are many types of skin cancer, each with unique characteristics. Skin cancers are commonly classified into two groups: melanoma and non-melanoma skin cancers (also known as keratinocyte cancers).

Melanoma is the most serious form of skin cancer. If left untreated, it can spread rapidly to other parts of the body and can be fatal. Melanoma is the cause of most skin cancer-related deaths. Survival is largely dependent on the thickness of the melanoma - in general the thinner the lesion, the better the outcome.

The term non-melanoma skin cancer refers to all types of skin cancer apart from melanoma. The most common types are:

- Basal cell carcinoma (BCC)
  The most common form of skin cancer, accounting for about 70% of non-melanoma skin cancers. BCC tends to grow slowly. It typically doesn't spread to other parts of the body and is generally not considered life-threatening.
- Squamous cell carcinoma (SCC)
  The second most common type of skin cancer. SCC is more aggressive than BCC and has a higher risk of spreading to other parts of the body if left untreated. SCC is responsible for most non-melanoma skin cancer-related deaths.

In this document 'skin cancer' refers to both melanoma and non-melanoma skin cancers.

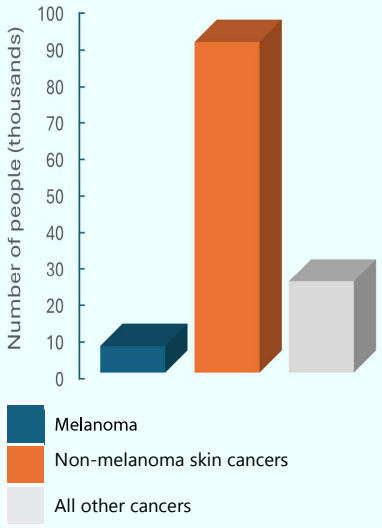
"Dad died of melanoma
at age 62.
It was just devastating
and the impact on our whole
family has been huge.
He was taken too young, and
he and our family are missing
out on so much."

- Simon McLean

STATE OF THE NATION

Skin cancer is common...

Each year nearly **100,000** New Zealanders are diagnosed with skin cancer - three times more than all other cancers combined.



2 in 3 New Zealanders will be diagnosed with some form of non-melanoma skin cancer in their lifetime.*

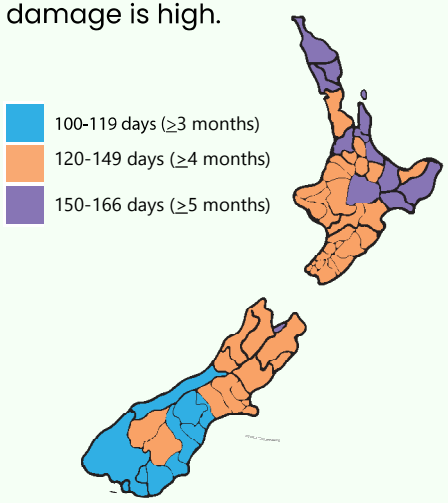
* Extrapolated from Australian data

It can affect anyone...

Over **95%** of melanomas are diagnosed in those who identify as Pākehā, however unprotected sun exposure increases the risk for anyone.

Around **90%** of melanoma cases in New Zealand can be attributed to sun exposure.

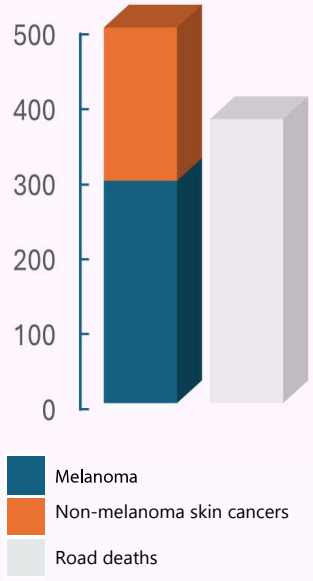
For more than **3 months** of the year, the entire country experiences UVR levels of 6 or above, when the risk of skin damage is high.



It's costing people their lives...

In 2018, **500** people lost their lives to skin cancer.

That's more than road deaths for the same year.

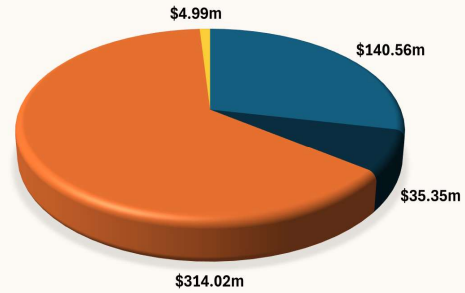


New Zealand has the **highest** melanoma mortality rate in the world.

It's costing the country...

In 2025, the cost of skin cancer in New Zealand is estimated at **$494.92 million**.

This includes $454.58 million of direct healthcare costs (91.8%) and $40.34 million of lost productivity from mortality (8.2%)*.



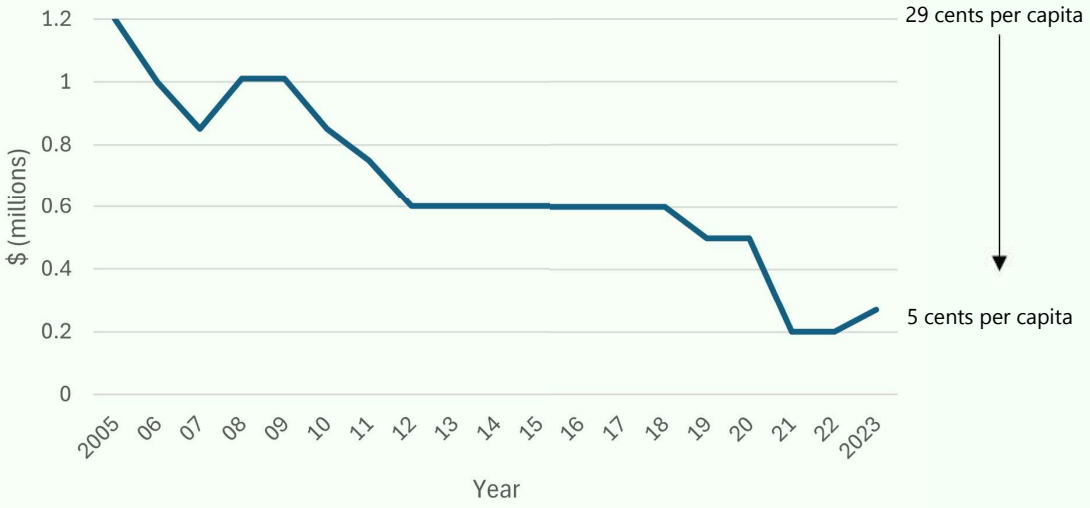
* These results are yet to be submitted for publication in a peer-reviewed journal and may be subject to further revisions.

... and it's up to 90% preventable, and if caught early, almost 100% survivable

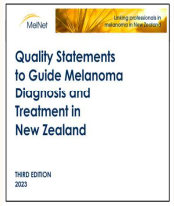
STATE OF THE NATION

Declining Government investment

Government investment in skin cancer prevention and early detection has decreased from $1.2m in 2005 to $275k in 2023/24.



Key skin cancer-related recommendations



The Quality Statements to Guide Melanoma Diagnosis and Treatment in New Zealand include good practice points on melanoma prevention and early detection strategies, training of primary healthcare professionals and management of people at high risk of melanoma (MelNet, 2023).

To reduce exposure to harmful UVR, the Cancer Prevention Report recommends creating healthy outdoor, school and work environments and increasing access to affordable high-quality sunscreen (Te Aho o Te Kahu, 2022).

Government Policy Statement on Health 2024 - 2027

The Government Policy Statement on Health 2024 - 2027 aims to:

- improve health outcomes for all New Zealanders by ensuring timely access to quality healthcare, irrespective of who they are or where they live
- strengthen the health workforce
- enhance digital and physical infrastructure within the health system.

Improved prevention and early intervention of five non-communicable diseases, including cancer is a key priority, with a focus on addressing five modifiable risk factors: alcohol consumption, tobacco use, poor nutrition, physical inactivity, and adverse social and environmental conditions, including climate (Minister of Health, 2024).

STATE OF THE NATION

PUBLIC EDUCATION CAMPAIGNS

- Government funding for skin cancer public education campaigns is around $200k per year. For the past two years, the Cancer Society of New Zealand has been contracted to deliver a SunSmart campaign on behalf of Health New Zealand.
- In recent years Melanoma New Zealand has delivered several campaigns on the importance of early detection and self-skin examinations.
- The UV Index, which measures the level of UVR from the sun, is promoted on the MetService website, MetService app and the weather section of main newspapers from September to April.
- There is limited routine monitoring of SunSmart and early detection knowledge and behaviours. This limits the ability to inform campaigns and monitor changes over time.

EDUCATION

- Sun protective behaviours in early childhood education, and primary, intermediate and secondary schools are inconsistent.
- Schools do not receive public funding to support sun protection policies or provide shade structures.
- 2000 of 2500 schools have a SchoolDocs sun protection policy, but quality and implementation is not assessed.
- The Cancer Society of New Zealand funds and delivers the SunSmart Schools programme to primary and intermediate schools - 28.2% of eligible schools are enrolled. This programme does not extend to secondary schools.
- SunSmart Schools have better sun protection policies and practices than schools not enrolled.
- The Cancer Society of New Zealand and the Office of Early Childhood Education provide online education resources, including sun protection policy guidelines to early childhood education service providers.
- Melanoma New Zealand provides an online course free of charge to schools to provide to their staff.

WORKPLACES

- The Health and Safety at Work Act 2015 requires employers to keep workers safe from risks arising from their work, including from exposure to UVR.
- WorkSafe, Melanoma New Zealand, and the Cancer Society of New Zealand provide resources for workplaces relating to sun protection.
- Employers can claim sun protective products as tax-deductible; employees cannot.
- Work-related gradual process injuries like UVR exposure may be covered by ACC, but it's uncertain if such claims have been successful. In some cases, individuals may be able to sue an employer for exemplary damages, even if the injury is also covered by ACC.
- There is limited recent research on sun protection policies and practices of New Zealand workplaces where workers work outdoors. .

SPORT AND RECREATION

- Sun protective behaviours of adults and children during sports and recreation activities are poor.
- Five of 67 local councils (7%) have a sun protection policy. There is no legislative requirement for this.
- 12 of 71 relevant National Sporting Organisations (17%) reference sun protection in policy documents. Only two (3%) have a comprehensive sun protection policy.
- 90% of school outdoor swimming pools have no shade over water or spectator zones.
- A national project is mapping shade and facilities at council playgrounds and outdoor areas.
- The SunSmart website has comprehensive guidelines for councils and sporting organisations on sun protection policies and shade provision.

STATE OF THE NATION

SUN PROTECTION PRODUCTS AND GUIDELINES

- Sunscreen is regulated by Sunscreen Standard AS/NZS 2604:2021 and the Sunscreen (Product Safety Standard) Act 2022. The Therapeutic Products Act 2023 which was due to come into effect in 2026, was repealed in 2024. This would have classified sunscreen as a therapeutic good (as it is in Australia).
- Sunscreen is the primary form of sun protection for most New Zealanders, although use, application and knowledge varies.
- The price of sunscreen varies significantly between brands and retailers. It is available on prescription for those with particular immune-suppression diseases and is tax deductible for some employers.
- There is limited information on the public's knowledge and understanding of the UV Index and sun protection messages.
- There are voluntary standards for sunglasses, and sun protective clothing and hats (AS/NZS 1067.1 and 1067.2 and AS/NZS 4399). Both are mandatory in Australia. There is no standard in New Zealand for shade cloth.
- Resources and information on sun protective behaviours are available from many sources - there are some inconsistencies in messaging across these platforms. Information on the UV Index is freely available on the UVNZ app and recommended sun protection times are available on the Sun Protection Alert.

EARLY DETECTION

- Patient information and resources on early detection and self-skin examination are available from Melanoma New Zealand and the Cancer Society of New Zealand, as well as private skin service providers.
- The quality of, and access to, early detection services in New Zealand is inconsistent and in some areas limited. There is a growing shortage of dermatologists nationally, and workforce shortages and increased workloads for primary healthcare services have resulted in increased wait times and rising costs for patients.
- Services, including teledermoscopy, and funding for skin cancer detection and management differ significantly around the country.
- Skin examinations are carried out by a range of providers including GPs, nurses, dermoscopists, dermatologists and surgeons, with costs of a full body skin check varying significantly. Some providers offer spot checks.
- GPs are on the front line of skin cancer detection and management - 80% of skin cancer excisions are performed by GPs.
- There is limited training for medical students, GP registrars and internationally trained GPs in skin cancer, including the use of a dermatoscope.
- There are several training providers who offer entry level and advanced training in dermoscopy and minor surgery.

SOLARIA

- The Health (Protection) Amendment Act 2016 permits access to commercial sunbeds to those aged 18 years or older.
- Two of 67 local councils (3%) have regulations for commercial sunbed operation, with both requiring licensure.
- Nationwide, 55 establishments have sunbeds commercially available. Seven of these exclusively offer 'tanning services' and account for 70% of the sessions.
- Very few New Zealanders use sunbeds, and almost all understand that using a sunbed increases the risk of developing cancer (McNoe 2016, Richards 2017).
- Health New Zealand conducts visits to commercial sunbed operators to assess compliance with voluntary Standard AS/NZS 2635:2008 Solaria for Cosmetic Purposes. Consumer New Zealand is also funded by Health New Zaland to undertake 'Mystery Shopper' visits. These checks demonstrate that many establishments are permitting use by customers with high-risk skin types (Castles, 2024).
- In April 2024 no second-hand sunbeds were available for sale on TradeMe.

“Being Māori and young, I thought the chances of me having melanoma were low.
But just because we don’t fit the mould of a typical skin cancer patient, doesn’t mean we’re protected from getting it.”

- Briar Avatea

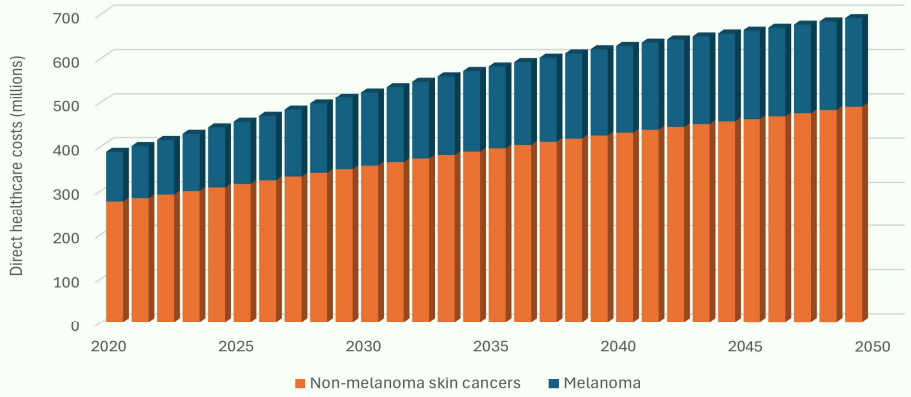
THE CASE FOR ACTION

The cost of taking no action is significant

The burden of skin cancer in New Zealand is massive and growing.

- Cases of melanoma in situ have **quadrupled** since 2000, with an average increase of 7.7% per year due to improved early detection aided by dermoscopy.
- Improvements in early detection and teledermoscopy services are accompanied by a large reduction in unnecessary excision of benign lesions.
- Cases of invasive melanoma have increased by over **70%** since 2000.
- Based on Australian data, non-melanoma skin cancers have likely been increasing by **2 – 6%** each year over the past 30 years (Olsen, 2022).

Skin cancer is costing the country a huge amount to treat - and with increasing case numbers, population growth and demographic shifts, we can expect to see treatment costs continue to rise*.



* These results have not yet been submitted for publication in a peer-reviewed journal and may be subject to further revisions.

We know what causes skin cancer and how to prevent it

Skin cancer has one major modifiable risk factor - excessive exposure to UVR.

There is a considerable body of evidence to support the effectiveness of prevention interventions in reducing population exposure to UVR.

Promoting sun protection will help reduce health inequities

There are fewer services for skin cancer than there is demand, and factors such as lower socioeconomic status, geographic location and ethnicity are linked to reduced access to skin cancer services and a higher likelihood of being diagnosed with advanced melanomas (Cortez, 2021).

By focusing on prevention, we can address disparities in access to skin cancer services, alleviate the demand for specialist care, and redirect funding currently spent on treating skin cancer to other essential health services.

New Zealand currently spends over 1600 times more treating skin cancer than preventing it

THE CASE FOR ACTION

Investing in skin cancer prevention and early detection will save lives and money now and into the future

International studies have shown that investing in skin cancer prevention has resulted in fewer cases of skin cancer, longer lives, better quality of life and savings for society (Collins, 2024).

Investing in skin cancer prevention is also highly cost effective, with efforts in Australia estimated to return $3.20 for every $1 invested (Shih, 2017).

When detected in its earliest stages, long term survival rates for melanoma can approach 100 per cent, and treatment costs are substantially less. A 2017 Australian study (Melanoma Institute Australia, 2022) estimated the average annual treatment cost per patient by stage of melanoma diagnosis as:

- In situ, Stage I and Stage II melanoma: AUD $1,681
- Stage III resectable melanoma: AUD $37,729
- Stage III unresectable and Stage IV melanoma: AUD $187,720

Consistent investment in skin cancer prevention in New Zealand will make a significant difference

Initial estimates suggest that investing $1 .05 per person per year in a multi-faceted skin cancer prevention programme (a total of around $5.5 million per annum) from now until 2050 has the potential to:*

Prevent **22,122** melanomas

Prevent **395,613** non-melanoma skin cancers

Prevent **1,940** skin cancer deaths

Save **1,622** years of life (before the age of 65)

Save **$699.6 million** in treatment costs

Save **$97.52 million** in lost productivity

Return up to **$11.90** for every $1 invested**

* These results have not yet been submitted for publication in a peer-reviewed journal and may be subject to further revisions.
** Includes both health system costs and lost productivty.

RECOMMENDATIONS

SUNSMART PROGRAMME

The Australian SunSmart program is globally recognised as the gold standard for skin cancer prevention (Melanoma Institute, 2022).

Established in 1988, this comprehensive evidence-based prevention and early detection program uses a multi-faceted approach to generate individual, policy, legislation and environmental change across settings such as schools, workplaces, sports and recreation, and health.

The Program has contributed to a decline in melanoma incidence in younger cohorts of Australians (Australian Institute of Health and Welfare, 2016), increased sun protective behaviours, reduced total sun exposure (Melanoma Institute, 2022) and caused a considerable shift in social norms around sun protection for pre- and primary-school-age children (Montague, 2001).

Furthermore, economic evaluations indicate a return of $3.20 in health care costs for every $1 invested (Shih, 2017)

RECOMMENDATION 1

A comprehensive, multi-sectoral, nationally co-ordinated skin cancer prevention and early detection programme is established

This should incorporate the recommendations within this document, with the aim to:

AIM: Reduce exposure to harmful UVR

TO ACHIEVE THIS WE NEED:

- Skin cancer universally recognised as a serious public health issue in New Zealand
- Healthy outdoor environments and settings that help protect from excessive UVR
- Comprehensive UVR protection policies and practices in high-risk settings
- New Zealanders proactively and consistently using individual sun protection behaviours

AIM: Detect skin cancers, particularly melanoma, earlier

TO ACHIEVE THIS WE NEED:

- All health professionals following best practice relating to skin cancer
- New Zealanders to understand their level of skin cancer risk and know how to examine their skin for changes
- Easy access for high-risk individuals to full body skin checks by a trained professional
- Professionals who come into contact with people's skin to be capable of recognising suspicious lesions and recommending those clients seek advice from a trained health professional

AIM: Underpin all activities with robust research, evaluation and surveillance

RECOMMENDATIONS

HEALTH PROFESSIONALS

Full-body skin checks performed by health professionals trained in dermoscopy are considered international best practice for detecting lesions suspicious of cancer (MelNet, 2023). When used by trained professionals, dermoscopy improves diagnostic accuracy and allows the detection of melanoma at the early, survivable, non-invasive stage.

Health professionals play a crucial role in raising public awareness about skin cancer prevention and early detection, and are the cornerstone of early and accurate diagnosis. Improvements in early detection and teledermoscopy services are accompanied by a large reduction in unnecessary excisions of benign lesions. GPs trained in skin cancer diagnosis and management have been shown to improve patient outcomes and create efficiencies within the health system (Brown, 2022). Studies show that other health professionals, such as nurses, can be trained to successfully perform skin checks with the use of diagnostic aids (Melanoma Institute Australia, 2022). Training programmes for non-medical professionals like massage therapists, cosmetologists, and hairdressers on the clinical presentation of skin cancer have proven beneficial.

In New Zealand, services for skin cancer detection vary, with inequitable access across the country particularly in regional and rural areas. Adequate training for health professionals to support the early detection of skin cancer is often not provided.

RECOMMENDATION 2

All health professionals working in New Zealand are provided structured training in the prevention and early detection of skin cancer

This includes:

a. mandatory training and education for GPs and GP registrars on skin cancer prevention, early detection (high risk clinical features), dermoscopy and minor surgery

b. prevention and early detection education for other health professionals (including relevant allied health professionals) and related personal service industries (such as hairdressers and tattooists)

c. the inclusion of lesion recognition and dermoscopy in medical school undergraduate and post-graduate training

RECOMMENDATION 3

A nationally consistent triage and audit service for the early detection and management of skin cancer is developed that involves both primary and secondary care and utilises tools such as teledermoscopy and the careful adoption of artificial intelligence

- ☐ Scope the development of a national pathway for the early detection and management of skin cancer based on current high-functioning models

- ☐ Map early detection services across the country and explore the use of outreach services in communities most in need
- ☐ Explore the establishment of a coordinated training programme similar to the Dermoscopy for Victorian General Practice Program (Jones, 2022)

- ☐ Work to incorporate lesion recognition and dermoscopy in undergraduate and post-graduate medical training curriculums

RECOMMENDATIONS

PUBLIC EDUCATION CAMPAIGNS

Mass media and social marketing public education campaigns have been shown to effectively contribute to skin cancer prevention and early detection efforts (Wakefield 2010).

Research shows the effectiveness of campaigns improves when messages are disseminated over multiple media channels, efforts are sustained over an extensive period of time and they are integrated into a comprehensive sun protection programme that seeks change at individual, environmental and policy levels (The Community Guide, 2022).

Evaluating the effectiveness of public education campaigns is essential to understanding their impact.

RECOMMENDATION 4

Public education campaigns that promote sun safety and early detection are planned and delivered through a range of communication channels, and their reach and impact evaluated

These should aim to:

a. improve knowledge, attitudes and behaviours relating to UVR, the UV Index and sun protection

b. shift social norms and attitudes to more accurately reflect the risks of UVR exposure

c. raise awarenesss about skin cancer risk and promote the importance of early detection

d. provide targeted messages to those most at risk, including outdoor workers, children and adolescents and people with fair skin

SHORT TERM

- [ ] Sustainable funding is identified for the ongoing delivery of the SunSmart (skin cancer prevention) campaign

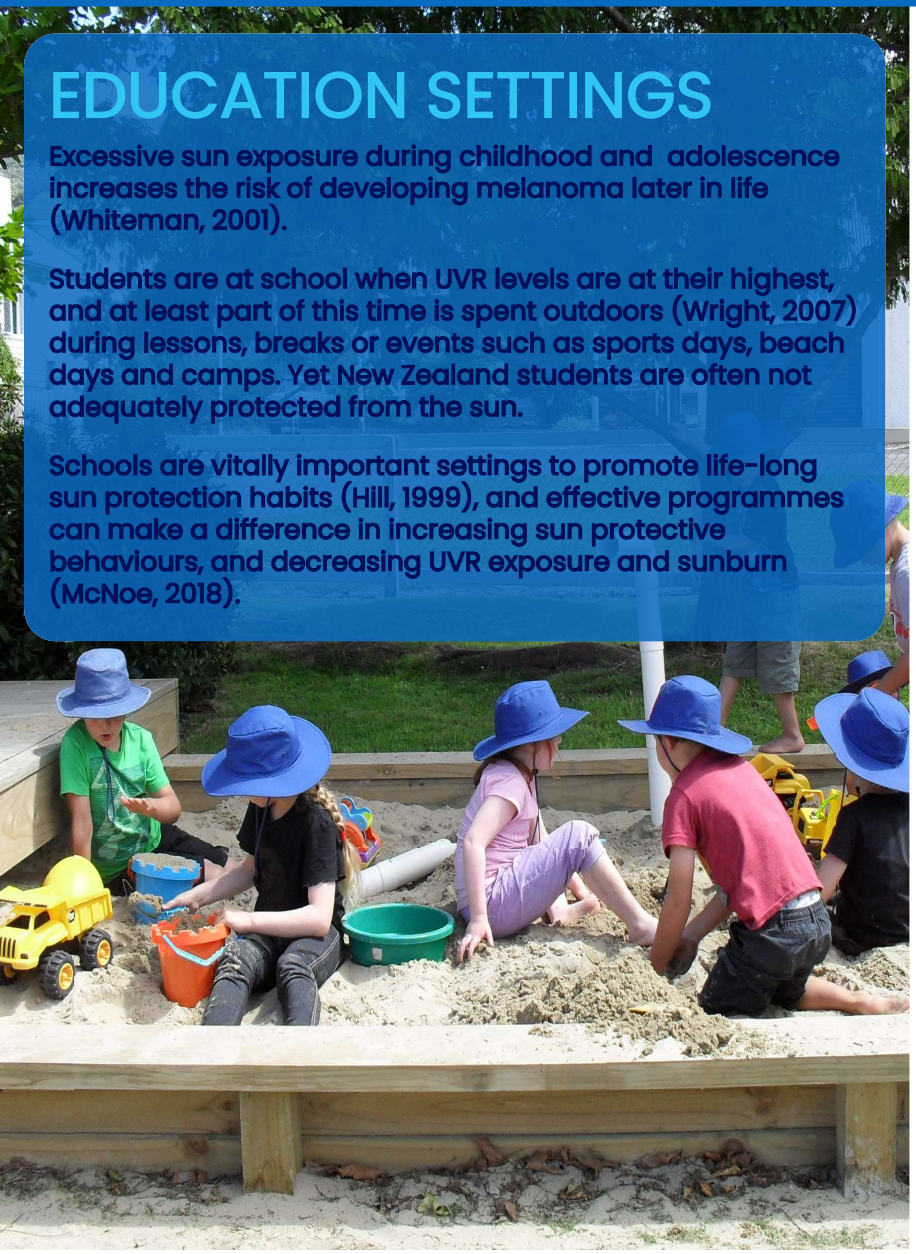
MEDIUM TERM

- [ ] Consistent funding is identified for regular research to understand knowledge, attitudes and behaviours relating to skin cancer prevention and early detection
- [ ] Options for an early detection campaign targeted at those most at risk are explored

LONG TERM

- [ ] Ongoing funding and implementation of public education campaigns and related research

RECOMMENDATIONS



EDUCATION SETTINGS

Excessive sun exposure during childhood and adolescence increases the risk of developing melanoma later in life (Whiteman, 2001).

Students are at school when UVR levels are at their highest, and at least part of this time is spent outdoors (Wright, 2007) during lessons, breaks or events such as sports days, beach days and camps. Yet New Zealand students are often not adequately protected from the sun.

Schools are vitally important settings to promote life-long sun protection habits (Hill, 1999), and effective programmes can make a difference in increasing sun protective behaviours, and decreasing UVR exposure and sunburn (McNoe, 2018).

RECOMMENDATION 5

World Health Organization recommended sun protection guidelines are adopted in all education settings

This requires consideration of:

a. the implementation of comprehensive written sun protection policies based on SunSmart Schools guidelines

b. incorporating quality shade in all school outdoor areas

c. the use of sun protective clothing, hats and sunscreen

d. scheduling outdoor activities outside of peak solar UVR hours (where feasible)

e. encouraging parents and staff to role model appropriate sun protective behaviours

f. including skills-based health education in the curriculum

g. a regular review process

SHORT TERM

- [ ] Guidance and materials are developed to support the transition of SunSmart Schools into an Education Review Office-assessed programme
- [ ] The Ministry of Education's position on shade sails is reviewed

MEDIUM TERM

- [ ] Sun protection policies are made mandatory in early childhood education services and schools, and support is provided to transition SunSmart Schools into an Education Review Office-assessed programme
- [ ] Shade provision is included as a mandatory element of new school and early childhood education services design or upgrade guidelines

LONG TERM

- [ ] An audit is undertaken to assess pre-existing shade availability and use, and sun protection policies and practices in all education settings
- [ ] A grant programme for quality built and natural shade in outdoor school areas is explored

RECOMMENDATIONS

WORKPLACE SETTINGS

Workers in outdoor occupations are exposed to high levels of UVR while at work, receiving up to 10 times more UVR exposure than those who work indoors (Godar, 2005).

Research conclusively shows a link between occupational sun exposure and the development of non-melanoma skin cancers (Mathieu, 2021). Research also suggests a connection between occupational sun exposure and the development of melanoma on sun exposed sites such as the head and neck (Juzeniene, 2012). As part of their diagnostic and exposure criteria, the International Labour Organisation recognises both non-melanoma and melanoma skin cancers as occupational diseases (International Labour Organization, 2022).

Interventions in outdoor occupational settings are effective in preventing skin cancer (The Community Guide, 2022). Sun protection education, mandatory policy, the provision of sun protective products and shade, and work systems that minimise the amount of time workers spend in the sun have been shown to be most successful in encouraging and enforcing sun protective behaviours in workers (Hammond, 2008).

RECOMMENDATION 6

Policies specific to sun protection are mandated and enforced for all workplaces with outdoor workers

SHORT TERM

- [ ] All businesses and workplaces with outdoor workers adopt effective solar UVR protection policies
- [ ] UVR protection for workplaces with outdoor workers is adopted as a focus area of WorkSafe New Zealand

MEDIUM TERM

- [ ] Workplaces are provided education on sun protection and early detection, with a focus on those workplaces who have outdoor workers
- [ ] Research is conducted to gather current, pertinent information about workplace sun protection policies and practices
- [ ] All workplaces with outdoor workers assess and address risks from solar UVR as part of their health and safety planning

LONG TERM

- [ ] Methods to improve monitoring of compliance with legislative requirements relating to sun protection policies and practices in workplaces are explored
- [ ] Feasible methods of monitoring workplace exposure and compliance with sun protection policies are implemented

RECOMMENDATIONS

SPORT AND RECREATION SETTINGS

Individuals participating in outdoor sports or recreational activities are at increased risk of skin cancer due to experiencing high levels of UVR and high rates of sunburn during their time outdoors (Moehrle 2008, Snyder 2020). New Zealanders are often not adequately protected from the sun when engaging in outdoor recreational activities.

Shade is one of the primary strategies for sun protection and skin cancer prevention as it provides a physical barrier between the sun and the skin. Good-quality shade fabrics can reduce UVR by up to 75% and trees with heavy dense canopy can provide up to 90% UVR protection (Te Aho o Te Kahu, 2022).

The Community Preventive Services Task Force also recommends educational and policy approaches for outdoor recreational settings (The Community Guide, 2022).

RECOMMENDATION 7

Sun protection policies are adopted by sports settings where participants (athletes, officials and spectators) are exposed to high levels of solar UVR

The should include uniform guidelines, provision of sun protective products and shade, and the inclusion of sun protection education in coaching programmes.

RECOMMENDATION 8

Sun protection is integrated into planning for outdoor recreation areas where people congregate

SHORT TERM

- [ ] Best practice sun protection guidelines for sports organisations are developed in conjunction with the skin cancer sector, with assistance from Sport New Zealand
- [ ] Local councils, sports organisations and community groups are supported to incorporate sun protection into existing relevant policies and plans (such as playground, urban design and health and safety)

MEDIUM TERM

- [ ] An audit of pre-existing shade in recreational and sporting areas (not covered by existing research) is conducted to identify areas that require additional shade installation
- [ ] Playground Standard NZS5828:2015 is updated to include the provision of shade

LONG TERM

- [ ] A funded shade scheme, similar to that in Australia is explored to help facilitate the installation of appropriate shade at sports grounds and places of recreation
- [ ] Feasible methods of monitoring sun protection policies and practices of agencies responsible for recreational areas and facilities are explored.

RECOMMENDATIONS

SUN PROTECTION PRODUCTS AND GUIDELINES

There are several personal protective behaviours that reduce skin cancer risk by limiting or minimising UVR exposure that causes harm. These are using sunscreen, wearing sun protective hats, clothing, and wrap around sunglasses, seeking shade, and avoiding outdoor activities during periods of extreme UVR.

When used regularly and applied correctly, sunscreen has been shown to be effective in reducing the risk of skin cancer (Autier 2009, Green 2011, Iannacone 2014).

Evidence-based guidelines recommend the use of sun protection when the UV Index reaches 3.

RECOMMENDATION 9

Access to high-quality, affordable sun protection products is increased

RECOMMENDATION 10

Existing sun protection guidelines and related position statements are reviewed to ensure they reflect latest research and are consistent across platforms

SHORT TERM

- [ ] Consider recommendations around aerosol sunscreen, given Australian research showing that most sunscreen fails to reach the skin when sprayed from an aerosol

MEDIUM TERM

- [ ] Explore supportive tax policies for sun protection products and/or broadening the criteria for eligibility for obtaining sunscreen by prescription
- [ ] Sunscreens are classified as a therapeutic good, as is the case in Australia
- [ ] Review the Consensus Statement on Vitamin D and Sun Exposure in New Zealand (Ministry of Health and Cancer Society of New Zealand, 2012)

LONG TERM

- [ ] Standards for sunglasses and fashion spectacles (AS/NZS 1067.1 and 1067.2), sun protective clothing (AS/NZS 4399) and knitted and woven shade fabrics (AS 4174) are adopted as mandatory standards, as is the case in Australia

RECOMMENDATIONS

SOLARIA

UVR from sunbeds is classified as a group 1 carcinogen to humans (El Ghissassi, 2009), with scientific evidence clearly showing there is no safe level of sunbed use for individuals of any age (Cust 2011, Boniol 2012).

The total ban implemented on commercial sunbeds in Australia has been highly effective, with approximately 4% of melanomas and 4% of non-melanoma skin cancers expected to be averted, and over A$64 million in healthcare costs saved (Janda, 2022).

RECOMMENDATION 11

An outright ban on on the importation, manufacture, sale and rental of sunbeds and sunlamps for commercial or private use is implemented

RECOMMENDATIONS

RESEARCH, EVALUATION AND SURVEILLANCE

Effective cancer control requires three key elements: fundamental research into the causes and impact of cancer, evaluation of intervention efficacy and the robust collection of quality cancer-related data (Minister of Health, 2003).

This information provides evidence-based justification for interventions, helping to ensure their effectiveness, guide resource allocation for maximum impact, and facilitate continuous improvement through ongoing monitoring.

RECOMMENDATION 12

All skin cancer prevention and early detection interventions are informed by robust research and quality data

This includes:

a. Monitoring and analysing the prevalence, trends and impact of skin cancer in New Zealand through robust incidence, mortality and other epidemiological data. This includes recording cases of non-melanoma skin cancer in the Cancer Registry to enable the actual incidence of skin cancer in New Zealand to be quantified

b. Monitoring and analysing knowledge, attitudes and behaviours relating to skin cancer through consistent and routine population monitoring surveys. This includes adding routine questions on sun protection and sun exposure to the New Zealand Health Survey.

c. Capturing pertinent baseline data on skin cancer prevention and early detection-related policies, practices and environments in high-risk settings

d. Ensuring comprehensive evaluation mechanisms are built into the development of any skin cancer related intervention

e. Undertaking other research as required to support the implementation of the recommendations outlined in this Strategy

ABOUT THIS DOCUMENT

This document has been prepared by the Melanoma Network of New Zealand (MelNet) on behalf of the national Skin Cancer Prevention and Early Detection Strategy Working Group, with funding support from Te Whatu Ora, Health New Zealand.

It is to be read in conjunction with:

1. **Supplementary information to the Skin Cancer Prevention and Early Detection Strategy 2024 - 2028**

2. **Guidance for skin cancer prevention and early detection messaging in New Zealand**

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Cancer Society
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Melanoma New Zealand

The Royal New Zealand College of General Practitioners
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NEW ZEALAND ASSOCIATION of Plastic Surgeons
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consumer.

NZ DERMATOLOGICAL SOCIETY INC
The Authority On Skin
Mana Mātai Kiri

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GLOSSARY

Dermoscopy	A non-invasive skin examination technique that allows careful examination of skin structures that are not visible to the naked eye. In experienced hands dermoscopy can aid in the diagnosis of malignant and benign skin lesions. Dermoscopy requires a dermatoscope (a hand-held device with a high quality magnifying lens). **Also known as:** dermatoscopy, epiluminoscopy and epiluminescent microscopy
Early detection	Detecting and diagnosing skin cancer in its beginning or early stages to reduce severe consequences and improve the likelihood of a positive health outcome. **Also known as**: secondary prevention
GP	General practitioner
Invasive melanoma	Melanoma that has spread beyond the epidermis
Melanoma in situ	An early form of melanoma in which the malignant cells are confined to the epidermis
Non-melanoma skin cancer	The two main types of non melanoma skin cancer are basal cell carcinoma (BCC) and squamous cell carcinoma (SCC). **Also known as:** keratinocyte cancers
Outdoor worker	A person whose job requires them to spend time working outdoors
Prevention	Actions taken to influence factors that contribute to or increase the risk of skin cancer, with the goal of reducing its incidence. **Also known as:** primary prevention
Skin cancer	A disease characterised by the growth of abnormal cells in the skin tissues. The most common types of skin cancer are melanoma, basal cell carcinoma, and squamous cell carcinoma. There are also less common types of skin cancer that can occur.
Teledermoscopy	The remote assessment of dermoscopic images of skin lesions that appear suspicious for cancer, conducted by a trained health professional
UVI	Ultraviolet Radiation Index. The measure of the intensity of UVR. **Also known as:** UV Index
UVR	Ultraviolet radiation. **Also known as**: UV Radiation

REFERENCES

Australian Institute of Health and Welfare 2016. Skin cancer in Australia. Cat. no. CAN 96. Canberra: AIHW.

Autier P. 2009. Sunscreen abuse for intentional sun exposure. Br J Dermatol 161 (Supp. 3), 40- 45.

Boniol M, Autier P, Boyle P, et al. 2012. Correction. Cutaneous melanoma attributable to sunbed use: Systematic review and meta-analysis (erratum). BMJ; 345:e8503.

BPAC. 2021. Early detection of melanoma and assessment of asymptomatic people at high risk. Available from https://bpac.org.nz/2021/melanoma-detection.aspx [Accessed June 2024].

Brown AE, Najmi M, Duke T, et al. 2022. Skin Cancer Education Interventions for Primary Care Providers: A Scoping Review. Journal of General Internal Medicine, 37(9), 2267–2279.

Cancer Council Australia. 2019. Early Detection of Skin Cancer: UV related position statements. Available from https://www.cancer.org.au/about-us/policy-and-advocacy/position-statements/uv/early-detection [Accessed June 2024].

Castles B. 2024. Time to ban sunbeds. Consumer, 2024, July 2.

Collins L.G, Gage, R, Sinclair C. et al. 2024. The Cost-Effectiveness of Primary Prevention Interventions for Skin Cancer: An Updated Systematic Review. Appl Health Econ Health Policy.

Cortez JL, Vasquez J, Wei ML. The impact of demographics, socioeconomics, and health care access on melanoma outcomes. J Am Acad Dermatol. 2021 Jun;84(6):1677-1683. doi: 10.1016/j.jaad.2020.07.125. Epub 2020 Aug 9. PMID: 32783908.

Cust AE, Jenkins MA, Goumas C, et al. 2011. Early-life sun exposure and risk of melanoma before age 40 years. Cancer Causes and Control; 22(6):885-97.

El Ghissassi F, Baan R, Straif K, et al. 2009. A review of human carcinogens—Part D: Radiation. Lancet Oncology; 10(8):751-52.

Environmental Health Intelligence. 2024. Melanoma mortality. [Surveillance Report]. Wellington: Environmental Health Intelligence NZ, Massey University.

Godar DE. UV doses Worldwide. Photochemistry and Photobiology, 2005, 81: 736-749.

Green AC, Williams GM, Logan V, et al. 2011. Reduced melanoma after regular sunscreen use: Randomized trial follow-up. J Clin Oncol 29: 257-263

Hammond VA, Reeder AI, Gray A, et al. 2008. Are workers or their workplaces the key to occupational sun protection? Health Promotion Journal of Australia 2008;19(2):97-101.

Hill D, Dixon H. 1999. Promoting sun protection in children: rationale and challenges. Health Education and Behavior; 26(3):409-17.

Iannacone MR, Hughes MCB, Green AC. 2014. Effects of sunscreen on skin cancer and photoaging. Photodermatol Photoimmunol Photomed 30:55-61

International Agency for Research on Cancer (IARC)/World Health Organization (WHO). Globocan 2022 - 08.02.2024. Cancer TODAY. 2024. Available from: https://gco.iarc.fr/today/en/dataviz/maps-heatmap?mode=population&types=1&cancers=16. Accessed April 2024.

International Labour Organization. 2022. Diagnostic and exposure criteria for occupational diseases. Switzerland. International Labour Organization.

Janda M, Sinclair C. 2022. Experience from an outright ban of commercial sunbeds in the Australian context. British Journal of Dermatology;187(1):7.

Jones SM, Walker H, Maitland C. 2022. A dermoscopy training program for Victorian GPs to improve skin cancer prevention and detection. Public Health Res Pract. 2022;32(1):e3212207.

Juzeniene A, Micu E, Porojnicu AC, et al. 2012. Malignant melanomas on head/neck and foot: Differences in time and latitudinal trends in Norway. J Eur Acad Dermatol Venereol 2012;26(7):821-27.

Mathieu B, Bayan H, Ivan I, et al. 2021. The effect of occupational exposure to solar ultraviolet radiation on malignant skin melanoma and non-melanoma skin cancer: A systematic review and meta-analysis from the WHO/ILO Joint Estimates of the Work-related Burden of Disease and Injury, 2021.

McNoe BM, Reeder AI, de Lange MP. 2018. SunSmart schools: A New Zealand skin cancer primary prevention intervention blueprint for primary school settings. British Journal of Dermatology 2018;179(4):963-64.

McNoe BM, Reeder AI. 2016.'Out of the frying pan, but not into the fire'': Quantifying commercial cosmetic tanning services in New Zealand to inform endgame regulation. New Zealand Medical Journal ;129(1446):84-88.

Melanoma Institute Australia. 2022. A report into melanoma - a national health priority. Insight Economics.

MelNet. 2023. Quality Statements to Guide Melanoma Diagnosis and Treatment in New Zealand. Christchurch: Melanoma Network of New Zealand (MelNet).

Miller I, Rosic N, Stapelberg M, et al. 2024. Performance of Commercial Dermatoscopic Systems That Incorporate Artificial Intelligence for the Identification of Melanoma in General Practice: A Systematic Review. Cancers (Basel). Apr 8;16(7):1443.

Minister of Health. 2024. Government Policy Statement on Health 2024 –2027. Wellington: Ministry of Health

Minister of Health. 2003. The New Zealand Cancer Control Strategy. Wellington: Ministry of Health and the New Zealand Cancer Control Trust.

Ministry of Transport. 2024. Road toll deaths since 1921. Available from https://www.transport.govt.nz/statistics-and-insights/safety-road-deaths. Accessed May 2024.

Moehrle M. 2008. Outdoor sports and skin cancer. Clin Dermatol;26(1):12-15.

Montague M, Borland R, Sinclair C. 2001. Slip! Slop! Slap! and SunSmart, 1980-2000: Skin Cancer Control and 20 Years of Population-Based Campaigning. Health Education & Behavior. 2001;28(3):290-305.

Olsen CM, Pandeya N, Green AC, Ragaini BS, Venn AJ, Whiteman DC. 2022. Keratinocyte cancer incidence in Australia: a review of population-based incidence trends and estimates of lifetime risk. Public Health Res Pract. 2022 Mar 10;32(1):3212203.

Richards R, McNoe B, Iosua E, et al. 2017. Changes in awareness of cancer risk factors among adult New Zealanders (CAANZ): 2001 to 2015. Health Education Research; 32(2):153-62.

Shih ST, Carter R, Heward S, Sinclair C. 2017. Economic evaluation of future skin cancer prevention in Australia. Prev Med. 2017;99:7–12.

Sneyd MJ, Gray A. 2018. Expected non melanoma skin (Keratinocytic) cancer incidence in New Zealand for 2018. Health Promotion Agency. Wellington, New Zealand.

Snyder A, Valdebran M, Terrero D, et al. 2020. Solar ultraviolet exposure in individuals who perform outdoor sport activities. Sports Medicine-Open;6(1):1-12.

Te Aho o Te Kahu. 2022. P□rongo □rai Mate Pukupuku, Cancer Prevention Report. Wellington: Te Aho o Te Kahu, Cancer Control Agency

Te Whatu Ora - Health New Zealand. 2023. New Zealand Cancer Registry - Cancer Web Tool. Available from https://tewhatuora.shinyapps.io/cancer-web-tool/. Accessed May 2024.

The Community Guide. What works - skin cancer. 2022. Available from: https://www.thecommunityguide.org/resources/what-works-skin-cancer-prevention.html (accessed 30 April 2024).

Tschandl P, Rinner C, Apalla Z, et al. 2020. Human-computer collaboration for skin cancer recognition. Nat Med. 2020 Aug;26(8):1229-1234.

Wakefield MA, Loken B, Hornik RC. 2010. Use of mass media campaigns to change health behaviour. Lancet 2010;376(9748):1261-71.

Walker H, Maitland C, Tabbakh T, et al. 2022. Forty years of Slip! Slop! Slap! A call to action on skin cancer prevention for Australia. Public Health Research and Practice 2022;32(1)

Whiteman D, Whiteman CA, Green A. 2001. Childhood sun exposure as a risk factor for melanoma: A systematic review of epidemiologic studies. Cancer Causes and Control;12(1):69-82.

Wright CY, Reeder AI, Bodeker GE, et al. 2007. Solar UVR exposure, concurrent activities and sun-protective practices among primary schoolchildren. Photochemistry and Photobiology; 83(3):749-58.