

New Zealand Skin Cancer Control Strategic Framework 2011 to 2014

New Zealand Skin Cancer Steering Committee

February 2011



Contents

- Overview..... 3**

- 1. Skin Cancer in New Zealand..... 4**

- 2. Intervening to Reduce the Incidence and Impact of Skin Cancer 7**
 - 2.1 Prevention of Skin Cancer 7
 - 2.1.1 Skin Cancer Risk Factors 7*
 - 2.1.2 Addressing Skin Cancer Risk..... 9*
 - 2.2 Early Detection of Skin Cancer 11
 - 2.2.1 Melanoma Thickness a Predictor of Prognosis 11*
 - 2.2.2 Early Detection Advisory Group Report as a Basis for Framework Recommendations . 11*
 - 2.2.3 Screening 14*
 - 2.3 Diagnosis and Treatment of Skin Cancer..... 14
 - 2.4 Research, Evaluation and Surveillance..... 14

- 3. Strategic Framework for 2011 to 2014..... 16**
 - 3.1 Key Principles 16
 - 3.2 The Framework 19

- References 20**

- Appendices: The New Zealand Skin Cancer Steering Committee..... 22**
 - A History of the Committee 22
 - New Zealand Skin Cancer Steering Committee Meeting 2010 23

Overview

Skin cancer is by far the most common cancer affecting New Zealanders. It is responsible for more than 300 deaths per year and is estimated to cost New Zealand \$57.1 million in healthcare costs. Melanoma is the most serious of the common types of skin cancer. New Zealand and Australia have the highest melanoma incidence rates in the world.

The New Zealand Skin Cancer Steering Committee is a national group of representatives of organisations working in skin cancer control. The role of the Committee is to facilitate improved coordination and collaboration among organisations involved in skin cancer control in New Zealand. The Committee meets triennially to develop the New Zealand Skin Cancer Control Strategic Framework. The Framework is a sector-led strategy to guide skin cancer control activities.

The New Zealand Skin Cancer Control Strategic Framework for 2011 to 2014 identifies five intervention pathways for reducing the incidence and impact of skin cancer: prevention; early detection; diagnosis and treatment; rehabilitation, support and palliative care; and, research, evaluation and surveillance. The focus of this document is on the prevention pathway and, to a lesser extent, the early detection pathway.

This document provides:

- An overview of skin cancer incidence, mortality and costs in New Zealand
- Information about interventions to reduce the incidence and impact of skin cancer, with a particular focus on risk factors and interventions to reduce risk
- The 2011 to 2014 New Zealand Skin Cancer Control Strategic Framework
- An overview of the New Zealand Skin Cancer Steering Committee, including its role and history, and the 2010 meeting of the Committee (appended).

1. Skin Cancer in New Zealand

Skin cancers are commonly classified into two groups: melanoma and non-melanoma skin cancers (NMSC). NMSC include mainly squamous cell (SCC) and basal cell (BCC) cancers. Of the three common types of skin cancer - melanoma, SCC and BCC - melanoma is the most serious.

Melanomas occur less frequently than NMSC but have a significantly higher mortality rate. In 2007, melanoma accounted for 2,173 new cancer registrations and 292 deaths (Ministry of Health, 2010a). The age-standardised registration rate was 42.4 melanoma cases per 100,000 for males and 36.5 melanoma cases per 100,000 for females. The age-standardised mortality rate was 6.4 per 100,000 for males and 3.4 per 100,000 for females.

NMSC are more common than melanomas but have a lower mortality rate. Although the incidence of NMSC is unknown (new cases of NMSC are not registered with the Cancer Registry due to resource considerations; Ministry of Health, 2010a), there are an estimated 67,000 new cases of NMSC every year in New Zealand (O’Dea, 2009). In 2007 there were 122 deaths from NMSC (Ministry of Health, 2010b).

Skin cancer is by far the most common cancer affecting New Zealanders. It has been estimated (using 2005 data) that all types of skin cancer account for just over 80 percent of all new cancers (O’Dea, 2009). Melanoma was the fourth most commonly registered cancer in 2007, accounting for 11.1% of all registrations, and the tenth most common cause of death from cancer (Ministry of Health, 2010a).

Skin cancer is a huge cost to New Zealand. In 2006, the health-care costs of skin cancer to New Zealand were estimated at \$57.1 million (O’Dea, 2009). Were it not for skin cancer, New Zealanders would have lived an additional 4,741 life-years in 2006 (melanoma accounted for 3,811 of the lost life-years and NMSC accounted for 930 of the lost life-years). In addition, these persons, if alive, would have made an economic contribution through employment of an estimated additional NZ\$66 million in 2006 (\$59.3 million for lost production from melanoma deaths; \$6.7 million for lost production through NMSC deaths).

Melanoma incidence and mortality rates appear to have slightly increased. Between 1997 and 2007 rates of melanoma registration and mortality appear to have increased slightly, with the rate of death consistently higher for males than for females (Ministry of Health, 2010a). New Zealand and Australia have the highest melanoma incidence rates in the world (Australian Cancer Network Melanoma Guidelines Revision Working Party, 2008).

The incidence of melanoma increases with age. A study of New Zealand melanoma cases between 2000 and 2004 found that the median age for females was 57 years and for males was 62 years (Liang et al., 2010). However, melanoma is still reasonably common in younger age groups with significant numbers diagnosed between 25 and 39 years of age in both males and females. For males aged 25 to 44-years-old it was the most commonly registered cancer in 2007, for females in the same age bracket it was the second most commonly registered cancer, and for females aged 0 to 24-years-old it was the third most commonly registered cancer (Ministry of Health, 2010b). Although melanoma is the commonest cancer in adolescence, cancer is rare during that period of life.

Melanoma incidence and mortality is consistently higher in males than females (Ministry of Health, 2010a). In 2007 the male incidence rate was 16.2% higher than the female rate and the rate of death was 90% higher.

Melanoma incidence and mortality is lower among New Zealand Māori and Pacific peoples than among New Zealand Europeans. Māori melanoma incidence rates are about one-tenth that of New Zealand Europeans (Sneyd and Cox, 2009). Of the 2,173 new melanoma registrations in 2007, 27 were Māori and six were Pacific peoples (Ministry of Health, 2010b). Of the 292 melanoma deaths in that same year, seven were Māori and two were Pacific peoples. However, the incidence of melanoma among Māori appears to have increased. Age-adjusted incidence rates increased annually from 1996 to 2006 by 0.37 per 100,000 in the total population and by 0.20 per 100,000 in Māori, a 12% and 90% increase respectively, over the 11 years (Sneyd and Cox, 2009). Melanoma incidence rates are higher in Māori than Pacific and Asian peoples.

Māori and Pacific peoples in New Zealand have a higher than expected risk of thick and more advanced melanoma, with poorer prognosis. The median thickness of melanoma in 2007 was 0.78 mm in New Zealand Europeans, 1.2 mm in Māori and 2.5 mm in Pacific

peoples (Sneyd and Cox, 2009). Thirty-seven percent of melanomas in Pacific peoples were >4mm thick compared with 7.9% in New Zealand Europeans. It is unknown whether these differences are due to delay in diagnosis, different biological behaviours of similar melanomas or other factors that have yet to be identified.

2. Intervening to Reduce the Incidence and Impact of Skin Cancer

The New Zealand Skin Cancer Control Strategic Framework for 2011 to 2014 identifies five intervention pathways for reducing incidence, impact and inequalities with respect to skin cancer: prevention; early detection; diagnosis and treatment; rehabilitation, support and palliative care; and research, evaluation and surveillance (see Figure 1, p19). These pathways are consistent with corresponding pathways of the cancer control continuum in *The New Zealand Cancer Control Strategy* (Minister of Health, 2003).

The focus of this document is on the prevention pathway and, to a lesser extent, the early detection pathway. This is consistent with evidence suggesting that the best avenues for reducing skin cancer burden are prevention and early diagnosis (Sneyd and Cox, 2006). The pathway for diagnosis and treatment identifies the need for a direct link to the recommendations of the *Clinical Practice Guidelines for the Management of Melanoma in Australia and New Zealand* (2008) and the associated Implementation Plan (NZ Guidelines Group, 2010). Though clearly of importance, the area of rehabilitation, support and palliative care falls outside the scope of the New Zealand Skin Cancer Steering Committee.

2.1 Prevention of Skin Cancer

According to the WHO (2002) cancer prevention should be a key element in all cancer control programmes. Cancer prevention focuses on factors that increase a person's chances of developing cancer (risk factors) and also on factors that can reduce the risk of developing cancer (protective factors).

2.1.1 Skin Cancer Risk Factors

There are a number of factors that are known to increase the risk of skin cancer. Most risk factors are non-modifiable. A small number, relating to exposure to ultraviolet (UV) radiation, are potentially modifiable and are therefore the focus of most prevention activities.

Non-modifiable risk factors for melanoma include:

- Previous history and/or family history of melanoma, pre-malignant melanoma and NMSC.

- Age: Melanoma incidence increases with age because older people have had more opportunities to be exposed to UV radiation and their capacity to repair the damage is diminished.
- Skin type: The risk of skin cancer is greater among those who sunburn readily and tan poorly, typically those with red or blond hair and fair skin that freckles or burns easily. Ethnic differences in skin cancer rates are mostly due to skin colour, which is determined by the amount of melanin produced by skin cells called melanocytes. These cells protect the skin from the damage produced by UV radiation. As a result, darkly pigmented people develop skin cancer on sun-exposed sites at lower rates than lightly pigmented people. However, incremental UV exposure does increase the risk of developing skin cancer for people with more darkly pigmented skin (Pennello et al., 2000). In New Zealand, people who identify as European have the greatest risk of developing skin cancer. Although there is no systematic collection of information relating skin type to ethnicity in New Zealand, self-report data suggest that there is some heterogeneity of skin type among Māori and Pacific peoples (Marshall, 2009).
- Type and number of moles: Having more than 100 moles compared with 0 to 15 moles; having more than five atypical moles compared with no atypical moles.
- Actinic damage.
- Immune suppression.

The overarching and potentially modifiable risk factor for melanoma is excessive exposure to UV radiation. Approximately 65% to 90% of melanomas are caused by UV exposure (Armstrong and Kricger, 1993). ‘Excessive’ exposure is understood in this context to mean ‘exposure that causes harm’ (e.g. premature aging, solar elastosis, sunburn, pre-malignant skin lesions, NMSC and melanoma). Examples of specific risk factors that relate to excessive exposure to UV radiation include:

- History of sunburn.
- Intermittent excessive sun exposure.
- Solaria use.

Excessive exposure to UV radiation increases the risk of all three major forms of skin cancer (Armstrong and Kricger, 2001). Intervening to address the potentially modifiable risk factors for melanoma, listed above, will also reduce NMSC incidence. Severe blistering

sunburns are associated with an increased risk of both melanoma and BCC (Armstrong and Kricger, 2001). For these cancers, intermittent intense exposures seems to carry a higher risk than do lower-level, chronic or cumulative exposures, even if the total amount of UV exposure is the same. The risk of SCC, in contrast, is strongly associated with chronic UV exposure but not with intermittent exposure. Total UV exposure depends on the intensity of the light, duration of skin exposure, and whether the skin is protected by shade, clothing (including hats) or sunscreen.

Childhood and adolescent exposure to UV radiation increases the risk of melanoma and BCC. The risk of developing melanoma and BCC is strongly related to a history of one or more sunburns (an indicator of intense UV exposure) in childhood or adolescence (Saraiya et al., 2004). Childhood sun exposure is also associated with the development of melanocytic nevi (moles), which are a risk factor for melanoma (Bauer and Garbe, 2003).

There are a number of environmental factors that influence UV exposure. Non-modifiable environmental factors include proximity to the equator, higher altitude, ozone depletion leading to increased levels of solar radiation at the Earth's surface, lower levels of cloud coverage (which can allow up to 80% of UV rays to penetrate the atmosphere), and the presence of materials that reflect the sun, such as pavement, water, snow and sand (IARC, 1992). Modifiable environmental factors include availability and quality of built and natural shade. These have an important influence on an individual's exposure to UV radiation.

There are a number of individual protective behaviours that reduce skin cancer risk by limiting or minimising excessive UV exposure. These include avoiding the sun at peak hours, avoiding artificial sources of UV light (solaria), wearing protective clothing and using sunscreen protection. In New Zealand, in 2010, approximately one-half (48%) of adults and one-third (36%) of adolescents wore a hat, and one-half of both adults (51%) and adolescents (49%) reported that they wore sunscreen, while doing outdoor activities at the weekend (National Research Bureau Ltd, 2010). Nearly six out of 10 adults (59%) and adolescents (57%) had spent some of their time outdoors under shade.

2.1.2 Addressing Skin Cancer Risk

As noted above, evidence suggests that one of the best avenues for reducing the burden of melanoma in New Zealand is prevention of excessive sun exposure (Sneyd and Cox, 2006).

Sneyd and Cox (2006) estimated that 328 new cases of melanoma in New Zealand in 2002 were directly attributable to severe sunburn. They argued that, if severe sunburn (with blisters) in the population was decreased by 10%, this could result in 28 fewer cases of melanoma per year and a reduction of about four deaths per year. Further, because NMSC is also associated with sunburn, a reduction in severe sunburn in the population would also result in fewer NMSCs.

A focus on prevention is supported by the Melanoma Guidelines Implementation Plan (NZ Guidelines Group, 2010). The Plan notes that prevention initiatives have the greatest potential for health gain and are therefore of the highest priority. The prevention initiatives proposed in the Plan focus on the primary healthcare setting, recognising that GPs and practice nurses have a role in advising on cancer prevention. Furthermore, primary care has a role in health promotion, with many PHOs having a designated health promotion staff member. The Plan also highlights that consumers have a right to consistent, evidence-based information from credible sources, particularly primary care. The aims of the proposed prevention initiatives in the Plan are to “increase delivery of melanoma prevention messages to consumers in the primary care setting” and “ensure consistency of messages delivered to consumers”.

There is currently limited evidence of the effectiveness of skin cancer prevention interventions. In 2004 the US Task Force on Community Preventive Services undertook a systematic review of interventions to prevent skin cancer by reducing UV exposure (Saraiya et al., 2004). The Task Force found:

- education and policy approaches to increasing sun-protective behaviours were effective when implemented in primary schools and in recreational or tourism settings
- insufficient evidence to determine the effectiveness of education and policy approaches in other settings, such as childcare centres, secondary schools and occupational settings
- insufficient evidence to determine the effectiveness of interventions oriented to healthcare settings and providers and parents or caregivers of children, media campaigns alone, and community-wide multi-component interventions.

2.2 Early Detection of Skin Cancer

According to *The New Zealand Cancer Control Strategy*, early detection means detecting cancer prior to the development of symptoms or as soon as practicable after the development of symptoms (Minister of Health, 2003). For skin cancer, early detection may occur through screening (people who are unaware of any signs or symptoms of skin cancer undergo a total skin examination by a health professional) or early clinical diagnosis (visual recognition of a suspicious lesion by a health professional). Early identification of a lesion can lead to earlier and more effective treatment.

2.2.1 Melanoma Thickness a Predictor of Prognosis

Melanoma survival decreases with increasing melanoma thickness, however, there is evidence that melanoma has a very good prognosis for tumours less than 1mm thick. Sneyd and Cox (2006) estimated that a 10% shift in the melanoma depth distribution, from $>0.75\text{mm}$ into the $\leq 0.75\text{mm}$ depth category, would result in about 29 fewer deaths per year (based on 2002 melanoma registration rates). For this reason, they advise that early diagnosis, along with prevention of excessive sun exposure, is one of the best avenues for reducing the burden of melanoma in New Zealand.

According to an analysis of data from 1994 to 2004, of those diagnosed with melanoma, the proportion with thick melanoma ($>3.0\text{ mm}$) was greater for older than younger people (with the proportion of thick melanomas increasing with age), for males compared with females, for Māori compared with non-Māori (despite the lower incidence in Māori), and for those diagnosed with nodular melanoma compared with other types of melanoma (Richardson et al., 2008).

2.2.2 Early Detection Advisory Group Report as a Basis for Framework Recommendations

Following the 2004 meeting of the New Zealand Skin Cancer Steering Committee, the Cancer Society of New Zealand and the Health Sponsorship Council (HSC), with funding from the Ministry of Health, established an Early Detection Advisory Group (EDAG). The purpose of the EDAG was “*to develop evidence-based policy and strategies for the early detection of skin cancer, particularly melanoma, to reduce mortality*” (EDAG, 2006). While acknowledging the burden of NMSC in New Zealand, the EDAG had a particular focus on

melanoma because of its higher rates of mortality. The EDAG report was released in December 2006.

A sub-committee of the New Zealand Skin Cancer Steering Committee met in October 2010 to review the EDAG's recommendations, to inform the early detection section of this Framework. As a basis for its recommendations, the Sub-Committee reviewed and updated the Executive Summary of the EDAG report, providing current data and including recent information (e.g. from the Melanoma Guidelines and Melanoma Guidelines Implementation Plan) (Early Detection Sub-Committee of the Skin Cancer Steering Committee, 2010).

Key report findings

In their report, the Sub-Committee noted EDAG's analysis that different types of melanoma differ in their natural history and tend to 'behave' differently. While some thick melanomas arise from thin melanomas, others may arise *de novo*. Therefore, it cannot always be concluded that thick melanomas develop from thin melanomas or that thick melanomas are due to a delay in recognition, presentation and/or diagnosis. For some melanomas, progression may be too rapid to permit early detection. Some thin melanomas may never become thick; some may even regress (Burton and Armstrong, 1998).

The Sub-Committee report also noted EDAG's views that increasing the practice of skin examination, either by doctors or laypersons, and activities to raise awareness of skin cancer/melanoma are likely to result in increased detection and recorded incidence of melanomas. It might be expected that this would result in the detection of thin melanomas, thereby preventing their progression to thick melanomas. However, it has not been shown that increased detection of thin melanomas corresponds to a reduction in the incidence of thick melanomas and an improvement in survival (McPherson et al., 2006).

Based on its review, the Sub-Committee concurred with EDAG's position that:

- Further research is needed to better target early detection strategies to reduce mortality from skin cancer, particularly melanoma, in New Zealand.
- Until such information becomes available, there is a need to ensure that the public have an adequate level of understanding that melanoma is a serious cancer by

providing good quality information, while at the same time acknowledging that knowledge does not necessarily translate into action.

Key recommendations

The Sub-Committee supported EDAG's recommendation for an information programme for all adults, particularly those aged 50 years and over, with the following objectives:

- Provide information to assist health professionals in their understanding of risks, diagnosis and the management of skin cancer, particularly melanoma.
- Increase knowledge about skin cancer, particularly melanoma, among other relevant health workers (e.g. physiotherapists, beauty therapists, etc).
- Ensure an adequate level of knowledge about skin cancer, particularly melanoma, in all adults, particularly those aged 50 years and over.
- Improve the quality of information currently available to all adults, particularly those aged 50 years and over, including what to look for and specific information on nodular melanoma, as nearly half (46.7%) of thick (>3 mm) melanomas are nodular (Chamberlain et al., 2002; Demierre et al., 2005).
- Encourage people to consult a doctor about suspicious lesions.

Based upon the Richardson et al. (2008) analysis of data identifying those with the greater proportion of thick melanomas, the Sub-Committee also supported EDAG's recommendations that these programmes should:

- include information for Māori and Pacific peoples
- address nodular melanoma
- ensure older men are targeted.

The recommendations of the EDAG report and the Melanoma Guidelines were considered in the development of the Guidelines Implementation Plan (NZ Guidelines Group, 2010). The Plan highlights the need for initiatives to “increase general practitioner awareness and knowledge of Guideline best practice relating to early detection”. It recommends the development of a tool for identifying individuals at high risk with a view to assisting clinicians in the provision of individualised prevention, early detection and surveillance advice. The Sub-Committee also concurred with this recommendation.

The Sub-Committee also supported EDAG's recommendation that all adults, particularly those aged 50 years and over, should regularly examine their skin (including skin not normally exposed to the sun) so that they will be aware of any changes; they should ask for help from someone else to check difficult to see areas, such as their back. Those who are concerned about skin changes should seek advice from a doctor.

2.2.3 Screening

While the EDAG report addressed screening for skin cancer, the *Clinical Practice Guidelines for the Management of Melanoma in Australia and New Zealand* (2008) provide a systematic review and assessment of the evidence for screening. According to the Guidelines, "in the absence of substantive evidence as to its effectiveness in reducing mortality from melanoma, population-based skin screening cannot be recommended".

2.3 Diagnosis and Treatment of Skin Cancer

As indicated previously, the pathway for diagnosis and treatment directly links to the recommendations of the *Clinical Practice Guidelines for the Management of Melanoma in Australia and New Zealand* (2008) and the associated Implementation Plan (NZ Guidelines Group, 2010). The Plan identifies the need to "increase general practitioner awareness and knowledge of Guideline best practice relating to diagnosis and management of primary melanoma". Recognising the importance of promulgating Guideline best practice among all involved in the diagnosis and treatment of melanoma, the Steering Committee recommends this recommendation be extended to apply to all health professionals.

2.4 Research, Evaluation and Surveillance

The knowledge required for effective cancer control originates from three broad types of knowledge-generating activities: fundamental research (causes and impacts), intervention research (efficacy and effectiveness of cancer control actions) and surveillance (collection, analysis and review of cancer-related data) (Minister of Health, 2003). These three activities are the key inputs to knowledge synthesis and the production of evidence needed for effective prevention and cancer control.

With regard to prevention, the US Task Force on Community Preventive Services identified a number of issues that may help explain why there is a lack of evidence to-date of the

effectiveness of interventions to prevent skin cancer (Saraiya et al., 2004). These related to research design, measurement, description of interventions, understanding of how environmental and policy interventions work, and studies in multiethnic populations. The Task Force also noted that there is a paucity of research that has measured key behavioural and health outcomes.

With regard to early detection, the EDAG report (EDAG, 2006) identified the need for research into:

- who is most likely to develop which type of melanoma
- who is most likely to develop thick melanoma
- who is most likely to die of melanoma
- the extent to which delay in recognition / presentation / diagnosis occurs in New Zealand, and the reasons for this.

Also, both the EDAG and the Melanoma Guidelines Implementation Plan (NZ Guidelines Group, 2010) identify the need for research to inform the development of a tool to identify individuals at high risk.

Having reviewed the above recommendations, the Early Detection Sub-Committee of the Skin Cancer Steering Committee (2010) highlighted the need for research to:

- better target early detection strategies to reduce mortality from skin cancer, particularly melanoma, in New Zealand
- inform the development of a melanoma high risk assessment tool specific for New Zealand.

3. Strategic Framework for 2011 to 2014

3.1 Key Principles

Alignment with *The New Zealand Cancer Control Strategy*. As noted in Section 3, the New Zealand Skin Cancer Control Strategic Framework for 2011 to 2014 aligns with *The New Zealand Cancer Control Strategy* (Minister of Health, 2003). In particular, the Framework purposes and intervention pathways are consistent with the purposes and goals of the Strategy.

Reducing inequalities. This is a guiding principle of the Framework as reflected in the identified purposes of the Framework. The Committee recognises the need to reduce the incidence and impact of skin cancer *and* reduce inequalities with respect to skin cancer. This is consistent with *The New Zealand Cancer Control Strategy* (Minister of Health, 2003). The “inequalities lens” should be applied in the development of skin cancer policy and programmes and commitment of resources. Inequalities relating to gender and ethnicity require particular attention.

Evidence-based. A guiding principle of the Framework is that all activities should be evidence-based. Again, this is consistent with *The New Zealand Cancer Control Strategy* (Minister of Health, 2003). A strong evidence-base provides confidence that the intervention approaches, goals and objectives identified are likely to be effective, and that efforts and resources are directed at the population groups most affected by skin cancer and its risk factors. The importance of ensuring the Framework is evidence-based is reflected in the inclusion of a research, evaluation and surveillance intervention pathway in the Framework (see Figure 1).

The Framework as a guide for action. As in previous years, the Framework is intended to be a guide for action rather than a blue print. Programme planners are expected to assess areas of organisational expertise in relation to the Framework and, in developing programmes, specifically identify how the programmes contribute to overall strategic skin cancer control outcomes. It is expected that each organisation involved in skin cancer control will interpret and use the Framework from their organisational perspective.

3.2 The Framework

As **Figure 1** (p19) shows, the overarching purposes of the 2011 to 2014 Framework are to reduce the incidence and impact of skin cancer and to reduce inequalities with respect to skin cancer. Skin cancer is understood to include both melanoma and NMSC. Impact includes mortality and morbidity as well as quality of life considerations. Consistent with recommendations of the Melanoma Guidelines Implementation Plan (New Zealand Guidelines Group, 2010), priorities for early detection and diagnosis and treatment include increasing health professional awareness and knowledge of Guideline best practice. Consistent with recommendations of the EDAG report (EDAG, 2006), one of the priorities for early detection is ensuring an adequate level of knowledge about skin cancer, particularly melanoma, among all adults, particularly those aged 50 years and over.

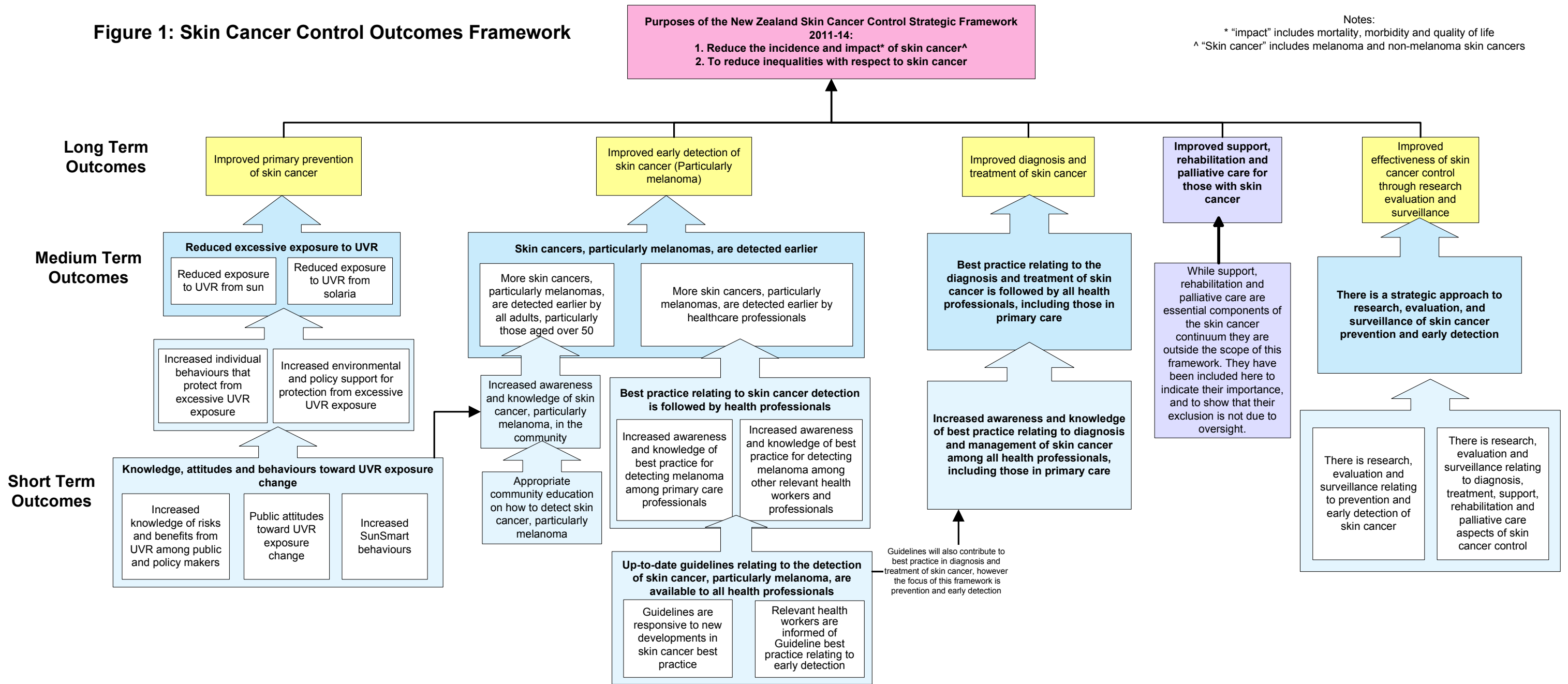
As highlighted in the Framework principles, research, evaluation and surveillance provide a critical underpinning to all skin cancer control activities. To this end, the 2010 Committee has identified the need to develop a specific Research, Evaluation and Surveillance Strategy. Reflecting the Framework focus on prevention and early detection, the scope of the Strategy will also be limited to prevention and early detection. The HSC has agreed to take a lead role in facilitating the development of this Strategy.

Figure 1 identifies priorities for the prevention intervention pathway. The focus of prevention activities is on reducing excessive exposure to UVR, the overarching risk factor for melanoma and NMSC. Excessive UVR exposure incorporates sunburn, intermittent sun exposure and solaria use. Key medium term outcomes are an increase in individual sun protective behaviours that protect from excessive UVR exposure and increased environmental and policy support for protection from excessive UVR exposure. Changes that can be expected to contribute to achievement of these outcomes are increased knowledge of the risks and benefits of UVR among the public and policy makers, a change in attitudes toward UVR exposure and increased SunSmart behaviours. It is anticipated that these changes will be the focus of strategies such as settings-based interventions, advocacy, and marketing and communications.

The Committee has identified adolescents and primary school aged children (under 12 years) as priority audiences for prevention activities. Other at-risk population groups (such as

outdoor workers) are secondary target audiences. Reflecting these audiences, schools, health care settings, occupational settings and recreational settings are key environments for intervention activities. Given the US Task Force finding that there is insufficient evidence for the effectiveness of education and policy approaches in secondary schools and occupational settings, mass media campaigns on their own, and interventions focused on healthcare settings (Saraiya et al., 2004), it will be important to ensure rigorous formative and outcome evaluation of any such initiatives. Specific research issues outlined by the Task Force should be given careful consideration.

Figure 1: Skin Cancer Control Outcomes Framework



References

- Armstrong, B. and Kricger A. (1993). How much melanoma is caused by sun exposure? *Melanoma Res* 3: 395-401.
- Armstrong, B. and Kricger, A. (2001). The epidemiology of UV induced skin cancer. *J Photochem Photobiol B* 63(1-3): 8-18.
- Australian Cancer Network Melanoma Guidelines Revision Working Party (2008). *Clinical Practice Guidelines for the Management of Melanoma in Australia and New Zealand*. The Cancer Council Australia and Australian Cancer Network, Sydney, and New Zealand Guidelines Group, Wellington.
- Bauer, J. and Garbe, C. (2003). Acquired melanocytic nevi as risk factor for melanoma development. A comprehensive review of epidemiological data. *Pigment Cell Res* 16(3): 297-306.
- Burton, R. and Armstrong, B. (1998). Non-metastasizing melanoma? *Journal of Surgical Oncology* 67: 73-76.
- Chamberlain, A., Fritschi, L., Giles, G., Dowling, J., and Kelly J. (2002). Nodular type and older age as the most significant associations of thick melanoma in Victoria, Australia. *Archives of Dermatology* 138: 609-614.
- Demierre, M., Chung, C., Miller, D., and Geller, A. (2005). Early detection of thick melanomas in the United States: beware of the nodular subtype. *Archives of Dermatology* 141(6): 745-750.
- Early Detection Sub-Committee of the Skin Cancer Steering Committee (2010). *Report to the Skin Cancer Steering Committee on the Early Detection of Skin Cancer in New Zealand*. Unpublished report.
- EDAG (2006). *Report on the Early Detection of Skin Cancer in New Zealand*. Wellington: Cancer Society of New Zealand and Health Sponsorship Council.
- International Agency for Research on Cancer (1992). *Solar and ultraviolet radiation*. Monographs on the evaluation of carcinogenic risks to humans. Lyon, France: International Agency for Research on Cancer.
- Liang, J., Robinson, E., and Martin, R. (2010). Cutaneous melanoma in New Zealand: 2000-2004. *ANZJSurg* 80(2010): 312-316.
- Marshall, B. (2009). *Current knowledge about skin cancer, particularly melanoma, in Māori and Pacific peoples in New Zealand*. Unpublished report for the Cancer Society Auckland.
- McPherson, M., Elwood, M., English, D., Baade, P., Youl, P., and Aitken, J. (2006). Presentation and detection of invasive melanoma in a high-risk population. *Journal of the American Academy of Dermatology* 54(5): 783-792.

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

Ministry of Health (2010a). *Cancer: New Registrations and Deaths 2007*. Wellington: Ministry of Health. [http://www.moh.govt.nz/moh.nsf/pagesmh/10173/\\$File/cancer-reg-deaths-2007.pdf](http://www.moh.govt.nz/moh.nsf/pagesmh/10173/$File/cancer-reg-deaths-2007.pdf)

Ministry of Health (2010b). *Data tables - Cancer: New Registrations and Deaths 2007*. Wellington: Ministry of Health. <http://www.moh.govt.nz/moh.nsf/indexmh/cancer-reg-deaths-2007-jun10>

National Research Bureau Ltd. (2010). *2010 Sun Exposure Survey*. Unpublished results. Survey undertaken for the Cancer Society of New Zealand and Health Sponsorship Council.

New Zealand Guidelines Group (2010). *Clinical Practice Guidelines for the Management of Melanoma in Australia and New Zealand: Implementation Plan*. Unpublished report for the Ministry of Health. Wellington: NZ Guidelines Group.

O'Dea, D. (2009). *The Costs of Skin Cancer to New Zealand*. Wellington: Cancer Society of New Zealand.

Pennello, G., Devesa, S. and Gail, M. (2000). Association of surface ultraviolet radiation B levels with melanoma and nonmelanoma skin cancer in United States blacks. *Cancer Epidemiol Biomarker Prev* 9: 291-297.

Reeder, A. (2001). *Skin Cancer Prevention in New Zealand: a discussion document to help guide future SunSmart programme directions*. Dunedin: Social & Behavioural Research in Cancer Group, Department of Preventive & Social Medicine, University of Otago.

Reeder, A. (2004). *Report to the Skin Cancer Steering Committee to Inform Development of the Skin Cancer Control Programme Plan 2005*. Dunedin: Social & Behavioural Research in Cancer Group, Department of Preventive & Social Medicine, University of Otago.

Richardson, A., Fletcher, L., Sneyd, M.J., Cox, B., and Reeder, A. (2008). The incidence and thickness of cutaneous malignant melanoma in New Zealand 1994-2004. *NZMJ* 121(1279): 8-26.

Saraiya, M., Glanz, L., Briss, P. et al. (2004). Interventions to prevent skin cancer by reducing exposure to ultraviolet radiation: a systematic review. *Am J Prev Med* 27(5): 422-466.

Sneyd, M.J. and Cox, B. (2006). The control of melanoma in New Zealand. *NZMJ* 119(1242).

Sneyd, M.J. and Cox, B. (2009). Melanoma in Māori, Asian and Pacific peoples in New Zealand. *Cancer Epidemiol Biomarker Prev* 18(6): 1706-1713.

WHO (2002). *National Cancer Control Programmes: Policies and Management Guidelines*. Geneva: World Health Organization.

Appendices: The New Zealand Skin Cancer Steering Committee

A History of the Committee

2001

The first meeting of the New Zealand Skin Cancer Steering Committee took place in August 2001. The meeting, which was convened by HSC and the Cancer Society, brought together representatives of the HSC, the Cancer Society, NIWA, the Social and Behavioural Research in Cancer Group of the University of Otago, as well as a GP and a dermatologist. Meeting discussions were underpinned by a discussion document prepared by Dr Tony Reeder (2001). The *Skin Cancer Prevention and Early Detection Action Plan 2001-2004* that resulted from the meeting set out five key objectives for skin cancer control work in New Zealand. On the basis of the Action Plan, HSC and Cancer Society National Office developed a SunSmart programme that focused on primary prevention of skin cancer, and had children 12 years and under and their caregivers as its priority audiences.

2004

The second meeting of the Committee took place in August 2004, with a view to reflecting on the previous three years and developing and identifying strategic direction for the next three years. Again the meeting was underpinned by a report prepared by Dr Reeder (2004). In addition to the organisations represented at the previous Committee meeting, a GP, and representatives of the Ministry of Health, Victoria University School of Architecture and Design, and Waikato District Health Board, also participated. On the basis of discussions at the 2004 Committee meeting a *Skin Cancer Control Strategic Framework for 2005 to 2008* was developed. Early detection of skin cancers and effectiveness of skin cancer treatment were identified as core components of the 2005 to 2008 Framework, providing the impetus for establishment of the Early Detection Advisory Group (EDAG). Vitamin D deficiency was also acknowledged as an important issue for skin cancer control at this meeting.

2007

The third meeting of the Committee took place in April 2007. Once again, the purpose of the meeting was to reflect on the previous three years and develop the strategic direction and priorities for the next three years. Organisations represented at the meeting were the Cancer

Society, the HSC, the Cancer Society Social and Behavioural Research Group, the Hugh Adam Cancer Epidemiology Unit, the Wellington School of Medicine, NIWA, the Ministry of Health, Te Ohu Rata o Aotearoa, the University of Auckland School of Population Health, the Dermatological Society, the Royal College of General Practitioners, and the Cancer Control Council. On the basis of discussions at the 2007 Committee meeting a *Skin Cancer Control Strategic Framework for 2008 to 2011* was developed.

New Zealand Skin Cancer Steering Committee Meeting 2010

The fourth meeting of the Committee, hosted by MelNet and funded by the HSC, took place on 31st August 2010. Meeting participants were as follows:

| | |
|---|--|
| Cancer Control New Zealand | Craig Tamblyn Scott Trainor |
| Cancer Society of New Zealand | Jane Armstrong Jim Callaghan Dr Judith Galtry Kerry Hocquard Dr Jan Pearson Martin Witt |
| Cancer Society Social and Behavioural Research Unit, University of Otago | Dr Tony Reeder |
| Daffodil Enterprises | Fiona Mawley |
| HSC | Wayde Beckman Rebecca Gray Iain Potter Laurianne Reinsborough Cristina van Dam Sarita von Afehl Dr Darren Walton |
| Hugh Adam Cancer Epidemiology Unit, University of Otago | Associate Professor Brian Cox Dr Mary Jane Sneyd |
| Melanoma Foundation of NZ | Heather Hyland |
| MelNet | Betsy Marshall |

| | |
|---|-----------------|
| Ministry of Health | Jane Lyon |
| NIWA | Ben Liley |
| NZ Dermatological Society | Dr Fiona Larsen |
| NZ Guidelines Group | Anne Buckley |
| Procure Health | Nicola Young |
| Royal NZ College of General Practitioners | Dr Chris Boberg |
| Te Ohu Rata o Aotearoa | Dr Tane Taylor |
| Wellington School of Medicine, University of Otago | Des O’Dea |
| MA thesis: Factors influencing sun exposure and risk of Vitamin D deficiency among Pacific and South Asian women. | Fiona Pettit |

The meeting was facilitated by Liz Smith of Litmus Ltd. Notes and compilation of the Framework document was undertaken by Kiri Milne of Litmus Ltd. A draft document was circulated to Committee members for feedback before finalisation. Associate Professor Robert Scragg, of the University of Auckland School of Population Health, and Dr Donna Cormack, of the University of Otago Te Ropu Rangahau Hauora a Eru Pomare, peer reviewed the document.

The first part of the Committee meeting programme involved presentations on the epidemiology of skin cancer (Dr Mary Jane Sneyd), the cost of skin cancer (Des O’Dea), *Clinical Practice Guidelines for the Management of Melanoma in Australia and New Zealand* and Implementation Plan (Anne Buckley), Cancer Society prevention activities and research (Dr Judith Galtry), HSC prevention activities and research (Laurianne Reinsborough and Rebecca Gray), and interventions to prevent skin cancer (Dr Tony Reeder). The second part of the meeting focused on reviewing the 2008 to 2011 Framework, identifying priorities, audiences and strategies for the prevention pathway, and seeking agreement on priority areas (drawn from the Melanoma Guidelines Implementation Plan) for the early detection and diagnosis and treatment pathways.