

**Submission of the Cancer Society of New
Zealand
to the Department of Labour
on the *Workplace Health and Safety Strategy
for New Zealand to 2015***

October 2004

1. Introduction

This submission was prepared by Dr. Judith Galtry (Health Promotion Advisor, Skin Cancer Prevention, Cancer Society of New Zealand, National Office, Wellington) in consultation with the Society's SunSmart Operational Group (which includes health promotion staff, nationwide) and the Social & Behavioural Research in Cancer Group at the University of Otago.

The Cancer Society of New Zealand is a non-governmental organisation with the overall goal of controlling cancer in New Zealand. Its mission statement is to minimise the impact of cancer in the community through the provision of support services, health promotion, research, advocacy and information services.

While the Cancer Society is concerned with all forms of cancer, its current focus is on the control of smoking-related cancers, physical activity and nutrition-related cancers, and skin cancer. The Cancer Society is also generally recognised as the leading authority on sun protection and skin cancer prevention in New Zealand.

2. General comments

The Cancer Society welcomes the development of a Workplace Health and Safety Strategy for New Zealand (WHSS). We recognise the importance of establishing a framework outlining national priorities for identifying and addressing significant or emerging hazards in the workplace.

The Cancer Society supports the need for legislation / regulations governing and restricting the use of all occupational-related carcinogens. However, in this submission we focus on the need for a legislative and regulatory framework that ensures that the outdoor workforce is protected from harmful exposure to the sun, given the particular significance of this issue in the New Zealand context.

We recommend that because skin cancer rates are extremely high in New Zealand, with outdoor workers likely to be among those groups who are particularly at risk, and also that sun exposure is more difficult to control than other workplace hazards, sun protection should be included as a national priority in the Department of Labour's *Workplace Health and Safety Strategy for New Zealand to 2015*.

3. The Burden of Skin Cancer to New Zealand

Skin cancer is by far the most common form of cancer affecting New Zealanders.¹ Incidence and mortality rates for melanoma in New Zealand are among the highest in the world, with this country having the highest death rate among OECD countries.² Around 300 New Zealanders die from skin cancer every year. While most of these deaths (231³ in 1999) are from melanoma, in that year 75 also died from non-melanoma skin cancers (NMSC), with many more developing skin cancer. Our high rate of skin cancer is disturbing, especially as it is largely preventable.

The high prevalence of skin cancer in New Zealand is consistent with aspects of this country's geography. In summer months, we receive more UV radiation because countries in the southern hemisphere lie closer to the sun in summer than countries in the northern hemisphere, and New Zealand's unpolluted atmosphere plus depletion of the protective ozone layer reduce the extent to which harmful UV rays are blocked from reaching the surface of the Earth. NZ experiences up to 50% higher levels of erythemal UV in summer months than those at comparable latitudes in the Northern Hemisphere.⁴

Skin cancer is also one of New Zealand's most costly cancers.⁵ The cost of melanoma and non-melanoma skin cancer (NMSC) to the New Zealand health system has been conservatively estimated at \$33M every year.⁶ This estimation does not take account of personal and social costs, such as individual and family suffering, or wider economic costs such as loss of income and workplace productivity.

¹ Reeder, A.I. (2004). *Report to the Skin Cancer Steering Committee to inform development of the Skin Cancer Control Programme Plan 2005*. Social & Behavioural Research in Cancer Group, Department of Preventive and Social Medicine, Dunedin School of Medicine.

² International Agency for Research on Cancer. (2001). *Clobocan 2000: Cancer incidence, mortality and prevalence worldwide, version 1.0*. IARC CancerBase No. 5. Lyon: International Agency for Research on Cancer.

³ www.nzhis.govt.nz/stats/cancerstats.html

⁴ McKenzie, R., Connor, B. and Bodeker, G. (1999). "Increased summertime UV Radiation in New Zealand." *Science* 285: pp. 1709-1711.

⁵ O'Dea, D. (2000). *The costs of skin cancer to New Zealand*. Wellington School of Medicine, University of Otago: Wellington.

⁶ O'Dea, *ibid*.

4. The Need for an Emphasis on the Primary Prevention of Skin Cancer

Skin cancer, including melanoma, has been linked through extensive epidemiologic evidence to excess exposure to ultraviolet radiation (UVR).⁷ Although harmful exposure to ultra violet radiation (UVR) is the key risk factor common to all types of skin cancers, variation in the pattern of excess sun exposure, for example, whether it is episodic or cumulative, may differentially influence the risk of developing specific types of skin cancer.⁸

Because most skin cancers are potentially readily preventable, the emphasis for skin cancer control efforts has tended to be on primary prevention, that is focused on improving protection against UVR and reducing harmful exposure.⁹ This has implications for the development and implementation of workplace policies and practices to reduce occupational exposure to UV radiation.

5. Outdoor Workers: An At-Risk Group for Skin Cancer

Outdoor workers are at increased risk of developing skin cancer, in particular, non-melanoma skin cancers, because of their prolonged, cumulative sun exposure.^{10 11} Non-melanoma skin cancers (NMSC) are twice as prevalent among outdoor than among indoor workers.¹² Providing an exact figure for non-melanoma skin cancer incidence is nevertheless difficult as non-melanoma skin

⁷ International Agency for Research on Cancer, (1992). *IARC Monographs on the Evaluation of Carcinogenic Risks to Humans. Solar and Ultraviolet Radiation*. Vol. 55. Lyon: International Agency for Research on Cancer.

⁸ Armstrong, B. (2004). How sun exposure causes skin cancer: an epidemiological perspective, in *Prevention of skin cancer*, D. Hill, E. D.R., and J.M. Elwood, (Editors). [Dordrecht](#): Kluwer Academic Publishers.

⁹ Reeder, 2004, p. 6.

¹⁰ Woolley, T., Buettner, P.G. & Lowe, J. (2002). Sun-related behaviors of outdoor working men with a history of non-melanoma skin cancer. *Journal of Occupational and Environmental Medicine* 44(9): 847-854.

¹¹ Cancer Council Australia. (2004). *National cancer prevention policy 2004-06*. Camperdown, NSW: Cancer Council Australia; World Health Organization. (2003). *Ultraviolet radiation as a hazard in the workplace*. Geneva: WHO.

¹² Green, A., et al. (1996). Skin cancer in a subtropical Australian population: incidence and lack of association with occupation. The Nambour Study Group. *American Journal of Epidemiology* 144(11): 1034-40.

cancers are not required to be notified under the Cancer Registry Act 1993, however estimates range from 45,000-70,000 annually.¹³

Because of this increased risk, a focus on sun protection among outdoor workers has been recommended as an important primary prevention strategy for skin cancer control both in NZ and internationally.^{14 15} This includes the need for legislation / regulations *requiring* that employers adopt and implement sun safe workplace policies, practices, and procedures, as well as the development of regular monitoring procedures to ensure employer compliance with these.

6. The Workplace: An Important Setting for Sun Protection and Education about Skin Cancer Prevention

The workplace is an important setting for sun protection programs for the following reasons:

- Outdoor workers are at higher than average risk of non-melanoma skin cancer because of their exposure to UVR over long periods of time.
- Workplaces can sometimes facilitate access to high risk and hard to reach groups.
- Workplaces provide settings for ongoing, long term and follow-up interventions.
- Workplaces offer opportunities to implement structural changes to workplace environments that have long lasting effects.¹⁶

In New Zealand, outdoor workers also comprise a numerically significant group. A study is currently underway in the greater Auckland region investigating outdoor workers' (1092 respondents) beliefs, attitudes and practices with respect to the prevention of NMSC.¹⁷ As part of this study it has been calculated that New Zealand has a total of 246,153 outdoor workers across a range of

¹³ Cancer Society of New Zealand. (2000). The costs of skin cancer to New Zealand. *Cancer Update in Practice*. Issue 2. Wellington: Cancer Society of New Zealand.

¹⁴ Reeder, 2004, p. 7.

¹⁵ World Health Organization. (2003). Intersun: The Global UV Project. A Guide and Compendium. Reduce the burden of disease resulting from exposure to UV radiation while enjoying the sun safely. Geneva: WHO.

¹⁶ Cancer Council Australia. (2002). Position Statement on Sun Protection in the Workplace. <http://www.cancer.org.au/content>.

¹⁷ McCool, J. et al. (2004). *Draft paper entitled: Outdoor workers perceptions of risk of developing non-melanoma skin cancer*. Department of Occupational Medicine and Department of Health Psychology, University of Auckland. Funded by: Cancer Society of New Zealand (Wellington Division Inc.).

occupations. This equates to approximately 14.28% of the total workforce working outdoors.¹⁸

Early findings of this study also highlight the importance of the workplace for influencing sun protective awareness and behaviour. Specifically, high workplace support was positively associated with sunscreen use, concern about sun exposure, prioritisation of sun protection and knowledge about sun-exposure (see Appendix One, Table 2).

7. Costs of Skin Cancer related to Occupational Exposure to UV Radiation

As noted by the WHSS, there are important economic implications associated with improving workplace health and safety not only for individual workers themselves but also for their families, employers, agencies such as OSH and ACC and wider society.

In Australia, non-melanoma skin cancer (NMSC) has been identified as the most costly burden to the health system, with around 2% of the population (370,000) treated for NMSC every year, which currently costs AUS\$420 million annually.¹⁹ In New Zealand that would equate to a burden of around 80,000 cases per year.²⁰

Although skin cancer has been identified as one of New Zealand's most costly cancers, it is nevertheless difficult to isolate out the specific costs associated with involvement in outdoor work.

8. Skin Cancer Control: A Government Priority

The control of skin cancer is also identified as a government priority. In 2003, the Ministry of Health released the New Zealand Cancer Control Strategy (NZCCS).²¹ Two of the seven key primary prevention objectives have implications for skin cancer prevention programmes and initiatives among the outdoor workforce. These include the need to '*reduce the number of people developing skin cancer due to UV radiation exposure*' and to '*reduce the number*

¹⁸ Communication with Principal Researcher, Dr Judith McCool, October 2004.

¹⁹ Cancer Council Australia, *National cancer prevention policy 2004-06*. 2004, Cancer Council Australia: Camperdown, NSW.

²⁰ Reeder, 2004, p. 29.

²¹ Ministry of Health. (2003). *The New Zealand Cancer Control Strategy*. Wellington: Ministry of Health and New Zealand Cancer Control Trust.

of people developing occupational-related cancers.²² Included among the broad areas for action are 'strengthening the legal framework to protect workers', reducing exposure and raising awareness of carcinogens in the workplace, 'supporting OSH research into occupational exposures' and 'improving the reporting of occupational cancers.'

The need to focus on outdoor workers, including the development of best practice guidelines and standards for government and employers, has also been identified as a priority by the National Skin Cancer Control Steering Committee jointly convened by the Cancer Society and Health Sponsorship Council in 2001²³ and 2004.²⁴

9. Current Legislative / Regulatory Framework for Sun Protection among Outdoor Workers in New Zealand

In New Zealand, the *Health and Safety in Employment Act 1992* (amended 2001) specifies that employers must protect the health and safety of their workers and that all workers must co-operate. Significant occupational hazards have to be identified and assessed and appropriate controls implemented and monitored.

In 1994, the Department of Labour and Cancer Society of NZ jointly published "guidance notes" for protecting workers from solar ultraviolet radiation.²⁵ These noted that under legislation both employers of outdoor workers and outdoor workers themselves have responsibilities with regard to the adoption of sun safe practices in the workplace. It also noted that it would be unreasonable to require that employers ensure that workers are protected from the sun through the provision of sun protective clothing and sunscreen. A consultative approach was also recommended:

Employers clearly have a responsibility to minimise the risk faced by those who are required to work out of doors, but workers also have individual responsibilities to look after their own health. Exposure to solar UV radiation will occur outside of work hours, and the intensity of and

²² Ministry of Health, *Ibid*, pp. 27-29.

²³ Reeder, A.I. (2001). *Skin cancer prevention in New Zealand: A discussion document to help guide future SunSmart programme directions*. Report prepared for the Cancer Society & Health Sponsorship Council Joint Working Group. August 16, 2001. (Social & Behavioural Research in Cancer Group. Department of Preventive & Social Medicine, Dunedin School of Medicine).

²⁴ Reeder, 2004.

²⁵ Department of Labour. (1994). *Guidance notes for the protection of workers from solar ultraviolet radiation*. Occupational Safety and Health Information Series. Wellington: Occupational Safety and Health Service.

exposure time to solar UV radiation will vary considerably within and between the wide range of occupations covered by these guidance notes. It is therefore recommended that a consultative approach be taken in determining how far the responsibilities of the employer extend. It is not reasonable to suggest that particular actions, such as the provision of shade, protective clothing or sunscreen, or monitoring, be mandatory for all employers of outdoor workers. In some situations, the employer's obligations may not extend beyond hazard (exposure) assessment and the provision of information to employees.²⁶

Given that outdoor workers are often likely to be exposed to high levels of UV radiation, the Cancer Society is of the opinion that the occupational safety and health legislative / regulatory framework needs to be tightened to *require* that all employers of outdoor workers adopt and implement sun safe policies. Moreover, a consultative approach between government and employers with regard to ensuring that outdoor workers are protected from the sun fails to take into account the unequal power relations between employers and employees that characterise employment arrangements. For instance, many outdoor workers are likely to be low skilled and low paid and employed on individual, short-term or fixed-term contracts. There is also little available evidence regarding the need for employers to ensure workers are sun safe within collective agreements.

In many cases, outdoor workers themselves may also not be aware of the harmful affects of excess exposure to UV radiation. For instance, the previously cited study in the greater Auckland region investigating outdoor workers' (1092 respondents) beliefs, attitudes and practices with respect to the prevention of NMSC suggest that sun protection is not a high priority for most outdoor workers, that they tend to have ambivalent attitudes towards protection, and that misconceptions about a protective effect of sun burn were common.²⁷ i

Sun protective practices among outdoor workers are also likely to be influenced by the particular culture of the workplace and, in some male-dominated industries, such as the construction industry, a "macho" work ethic might sometimes prevail which actively discourages sun protective behaviour, such as the wearing of hats, long-sleeved shirts and sunscreen. Requiring employers to ensure outdoor workers are protected from UV radiation therefore also supports the Strategy's long-term outcomes, including the development of a 'workplace quality culture'.

²⁶ Ibid, pp. 5-6.

²⁷ McCool, J. et al. (2004). *Draft paper entitled: Outdoor workers perceptions of risk of developing non-melanoma skin cancer*. Department of Occupational Medicine and Department of Health Psychology, University of Auckland. Funded by: Cancer Society of New Zealand (Wellington Division Inc.).

10. Workplace Health and Safety Strategy's National Priority Groups

Maori and Pacific as well as new migrants are among those groups/categories identified as national priorities in the WHSS. An emphasis on vulnerable groups of workers is also important because, as the WHSS notes, workers may not have the information they need to manage hazards, particularly those leading to disease; may also have limited choices in undertaking the work; and often rely on others to provide a healthy and safe work environment.²⁸

Historically, skin cancer has mainly been an issue for New Zealanders of European origin, as the risk is much less among people with naturally darker skin colour.²⁹ Private laboratories do not routinely collect ethnicity data, so it is difficult to comment on Maori or Pacific rates of skin cancer.³⁰ While there is no available evidence regarding skin cancer rates among Pacific people, self-defined Maori nevertheless include a full range of skin types and a sizeable proportion has a tendency to sunburn.³¹

Two factors may also possibly be lifting the risk factors for Maori and Pacific Peoples. First, the increased ozone depletion that has occurred in recent years. Second, historical and current high rates of intermarriage between Maori and non-Maori, as well as between Pacific Island Peoples and the European group. An analysis of Census data shows that in 1996, around half of Maori men and women who lived in couples had a non-Maori partner.³² The majority of these partners are from European ethnic group, increasing the likelihood that Maori will become of an increasingly fair skin colour.

Although it is difficult to determine statistics on the proportion of outdoor workers in New Zealand, including the number of Maori and Pacific, it is also possible because of socio-economic and education factors that Maori are over-

²⁸ Department of Labour. (2004). *Workplace Health and Safety Strategy for New Zealand to 2015: Draft for Consultation*. Wellington: Department of Labour, p. 2.

²⁹ Parkin, D.M., Muir, C.S., Whelan, S.L., et al. (1992). *Cancer incidence in five continents*. International Agency for Research on Cancer Scientific Publication No. 120. Lyon: IARC.

³⁰ Reeder, A.I. (2001). *Results from the Maori respondents included in a national survey of awareness, understanding & response to sun protection messages in media weather reports*. Social & Behavioural Research in Cancer Group, Department of Preventive and Social Medicine, Dunedin School of Medicine.

³¹ Ibid.

³² Callister, P. (2004) *Maori/non-Maori ethnic intermarriage, New Zealand Population Review* 29(2): 89-105.

represented among the outdoor workforce. Moreover, in the national survey of awareness, understanding and response to sun protection messages in media weather (which included 57 Maori respondents among 396 respondents) Maori reported considerable occupational sun exposure, some as much as seven or more hours per day.³³ More than two-thirds considered that their risk of skin cancer was about the same as most people. Respondents' natural, untanned skin colour ranged from very fair to very dark. Some reported susceptibility to sun-burn.

Early findings from another study suggest significant differences in sunscreen use between occupational groups with workers from the viticulture, landscaping and postal industries more likely to use sunscreen $F(8, 854) = 2.493, P < .05$. Pakeha/European workers were also more likely to use sunscreen, $F(5, 855) = 6.195, P < .001$, compared to Maori workers. Female workers, $F(1, 835) = 46.842, P < .001$ and workers in older age levels, $F(6, 823) = 2.779, P < .05$, compared to males and younger workers. Workers with higher education achievement were also more likely to use sunscreen, $F(8, 794) = 2.354, P < .05$.³⁴

A number of eye diseases may also be related to excessive solar UV radiation exposure.³⁵ The World Health Organization notes that eye damage occurs independently of skin pigmentation, with this being an area of great concern both for the health of the individual, and for the national health system, for example, due to the costs for treatment of cataracts.³⁶ Moreover, when skin cancer occurs in people with darker skin, it is likely to be detected later, when the cancer is more advanced and therefore more dangerous.³⁷

The WHSS also notes the need for a focus on other vulnerable groups of workers, including new migrant workers. Sun protection may also be a priority for this group, given that many will have come from countries where UV radiation is less intense and are therefore not aware of the need for sun protection protective measures and equipment when working outdoors.

³³ Reeder, A I. (2001). Results from the Maori respondents included in a national survey of awareness, understanding & response to sun protection messages in media weather reports. Social & Behavioural Research in Cancer Group, Department of Preventive and Social Medicine, Dunedin School of Medicine.

³⁴ McCool, J. et al. (2004). *Draft paper entitled: Outdoor workers perceptions of risk of developing non-melanoma skin cancer*. Department of Occupational Medicine and Department of Health Psychology, University of Auckland. Funded by: Cancer Society of New Zealand (Wellington Division Inc.).

³⁵ Studies cited in Reeder, 2004, p.

³⁶ World Health Organization. (2002). "Sun protection: An essential element of Health-Promoting Schools," *WHO Information Series on School Health: Document Seven*. Geneva: World Health Organization. WHO/NPH/02.6. WHO/SCHOOL/02.1, p. 7.

³⁷ World Health Organization, *Ibid*.

In the United Kingdom, research suggests “people from lower socio-economic groups tend to be less knowledgeable than people from higher socio-economic groups about the ways of reducing the risk of skin cancer, less likely to check their skin, and more likely to be diagnosed with advanced stage tumours.”³⁸ It is also noted that many outdoor workers tend to be from lower socio-economic groups, thus increasing their risk of developing squamous cell skin cancer.

11. Legal Developments relating to Occupational UVR Exposure in Australia

Tightening regulations requiring that Governments ensure employers take responsibility for this area would also parallel developments in Australia where there have been a number of important legally binding rulings at both the federal and state levels with regard to occupational exposure to UV radiation among outdoor workers.

For instance, a federal tax case ruling in 2002 entitles outdoor workers to a tax rebate for sun-protective items (sunglasses, hats and sunscreen) related to their work on the basis that wearing sun protective clothing and equipment is no different from wearing safety boots, hard hats or gloves. This ruling assists employers to meet their duty of care in addition to removing the cost barrier to providing sun protective equipment.

In the state of Victoria, a government policy has also been recently introduced by that will require construction industry employers to have a sun protection policy in place to protect building workers from UV radiation by 2005. The policy is aimed at encouraging workers to regard sun protection as they do work boots or hard hats. WorkSafe Victoria introduced the requirement following the results of a skin check of more than 300 construction workers last year, which found 15 per cent had skin damage requiring referral for specialist medical attention. More than 500 construction sites will be visited by WorkSafe inspectors as part of the state-wide blitz, which is supported by SunSmart and the construction industry’s OHS forum, Foundations for Safety.³⁹

Meanwhile, in Queensland, an Australia Post postal delivery worker successfully campaigned against his employer, Australia Post, to accept liability for a skin

³⁸ United Kingdom Health Development Agency. (2000). *Cancer prevention: A resource to support local action in delivering the NHS Cancer Plan*. United Kingdom: Special Health Authority, p. 128.

³⁹ Age, 21/1/2004 p. 5, Mercury (Hobart), p. 21.

cancer and agree to cover medical and legal costs.⁴⁰ These legal precedents have potential implications for New Zealand.

12. Recommendations

The World Health Organization notes that a comprehensive strategy is required to minimise risks from solar radiation among outdoor workers because the sun cannot be controlled like other workplace exposure hazards.⁴¹ This requires the identification of specific responsibilities by government, NGOs, employers and employees.

Government

The current legislative and regulatory framework governing sun protection practices by industry appears too loose. There is a need to tighten this approach by placing responsibility more firmly on government to *require* that policies, procedures and practices ensuring that outdoor workers are protected from UV radiation are adopted and implemented by employers.

We therefore recommend that:

- OSH tightens the legislative / regulatory framework to require that employers adopt and implement sun safe policies, procedures and practices in the workplace.
- OSH regularly monitors workplace practice with regard to reducing outdoor workers' UV risk.
- OSH and ACC work with the Cancer Society to explore the development of an *Occupational UVR Exposure Standard*
- Ministry of Health extends the existing skin cancer control primary prevention objectives to specifically acknowledge the elevated NMSC risk among outdoor workers
- Key stakeholder government agencies (OSH, ACC and Ministry of Health) work with the Cancer Society to develop research and programmes targeted towards high-risk occupational groups.⁴²

⁴⁰ Australia Post pays costs of employee with skin cancer. *National Safety*, April 2004, p. 9.

⁴¹ World Health Organization. (2003). *INTERSUN: The Global UV Project A Guide and Compendium. Reduce the burden of disease resulting from exposure to UV radiation while enjoying the sun safely*. Geneva: WHO.

⁴² Reeder, 2004.

Employers

Co-operation between employers and employees is important to successfully minimise the risk of UVR exposure in the workplace. We recommend that employers:

- Adopt and implement a sun protection policy for outdoor workers.
- Set up systems of work to reduce the amount of time outdoor workers spend in the sun.
- Provide and maintain equipment needed to protect outdoor workers from the sun.
- Provide information, instruction, training and supervision to reduce outdoor workers' risk.

Employees

Prevention strategies for outdoor workers include:

- Wear protective clothing (long sleeved shirt, sunhat, sunglasses and sunscreen).
- Inspect their own skin regularly.
- Have their skin regularly checked by a physician.
- Seek physician advice about suspicious lesions.

Finally, the Cancer Society appreciates the opportunity to comment on the development of the Workplace Health and Safety Strategy. We would also be very happy to provide further comment if required.

Contact Details:

Dr. Judith Galtry
Health Promotion Advisor - Skin Cancer Prevention
Cancer Society of NZ
PO Box 10847
Wellington
Tele: 04 - 494-7196
Email: judith.galtry@cancer.org.nz
website: www.cancernz.org.nz

Appendix One⁴³

Table 2. Regression analysis for workplace support (controlling for occupation, ethnicity, sex, age and education)

Predictor variables	β	SE β	<i>t</i>	<i>R</i> ²
Sunscreen use	.40	.022	11.648	.19
Priority***	.27	.024	8.606	.12
Concern***	.32	.029	9.303	.14
Knowledge***	.25	.045	7.798	.10

* $P < .05$, ** $P < .01$, *** $P < .001$

⁴³ McCool et al, 2004, unpublished data.