



Department of
**Health, Social Services
and Public Safety**

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SKIN CANCER PREVENTION STRATEGY AND ACTION PLAN 2011-2021

JULY 2011

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MINISTERIAL FOREWORD

Northern Ireland may not enjoy the sunniest climate in the world, or even in the UK, however, in spite of this we have witnessed a significant rise in the incidence of melanoma skin cancer cases in recent years - from 80 cases in 1984 to 282 in 2009 (the latest year for which published figures are available). In relation to non-melanoma skin cancers, there are approximately 2,850 new cases here each year, making it the most common type of cancer diagnosed in Northern Ireland.

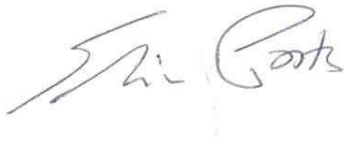
The rise in the number of skin cancer cases is alarming. We know that the increase in this particular type of cancer is global and not just confined to our part of the world. We also know there are many factors involved: the significant rise in people travelling on foreign sun holidays; more leisure time being spent out of doors; and damage caused to the ozone layer to name but a few.

Substantial progress in the area of skin cancer awareness raising and prevention has been made through the previous “Melanoma Strategy” which was developed in 1997. However, the unfortunate reality is that we will continue to see rising rates of skin cancer for some time to come as a result of many years of overexposure to the sun before skin cancer prevention programmes were developed. Until we can reverse this trend through effective campaigning and awareness raising, early detection will be key to bringing down mortality rates.

While the 1997 strategy was right for its time, there have been many developments since then, necessitating a new strategy to reflect today’s position. For example, recent studies about the importance of vitamin D have highlighted the need for balance in sun safety messages. This new strategy is not about stopping people from enjoying the sun and its many benefits. Rather, it is about encouraging people to take proportionate measures to prevent overexposure.

The Northern Ireland Melanoma Strategy Implementation Group (NIMSIG) was responsible for taking forward the previous strategy. I would like to acknowledge the outstanding work of NIMSIG members in delivering skin cancer prevention programmes throughout Northern Ireland over the past 12 years. Through effective partnership working, NIMSIG has been successful in bringing the care in the sun message to people in all areas of our society. I know that a similar high level of commitment and dedication will be applied in the implementation of this new ten-year strategy and action plan.

Everyone should enjoy the outdoors, their holidays, and the good weather when it arrives. However, I want to ensure that, in doing so, people do not compromise their health in terms of overexposure to the sun and its potentially lethal consequences down the line.

A handwritten signature in black ink, appearing to read 'Edwin Poots', with a stylized flourish at the end.

Edwin Poots MLA

Minister for Health, Social Services and Public Safety

CHAPTER 1 – BACKGROUND

INTRODUCTION

1.1 Sunlight, the earth's primary source of energy, is essential for supporting almost all forms of life. Not only do we require some exposure to the sun to provide us with sufficient vitamin D levels, but sunlight also has widespread mood-elevating effects, contributing to regular sleep patterns and consequently supporting good mental wellbeing.

1.2 However, too much sunlight, especially Ultraviolet Radiation, (UVR) can cause DNA and tissue damage, which may in turn lead to cancer and premature ageing of the skin. Currently, between 2 and 3 million non-melanoma skin cancers and 132,000 melanoma skin cancers occur globally each year¹. There are many types of skin cancer, but three types are responsible for more than 95% of all skin cancers. They are:

- basal cell carcinoma;
- squamous cell carcinoma; and
- malignant melanoma.

(Basal cell carcinoma and squamous cell carcinoma are often grouped together as non-melanoma skin cancer).

1.3 Skin cancer is now the most common form of cancer in Northern Ireland. During the period 2005-2009, an average of 3,128 new cases were diagnosed annually – around 261 of which were malignant melanomas, the most serious type of skin cancer.² At the end of 2007, there were at least 2,363 people living after having received a diagnosis of melanoma between the years 1993 and 2007. Many of these people are in good health with no long term effects of their diagnosis and treatment.

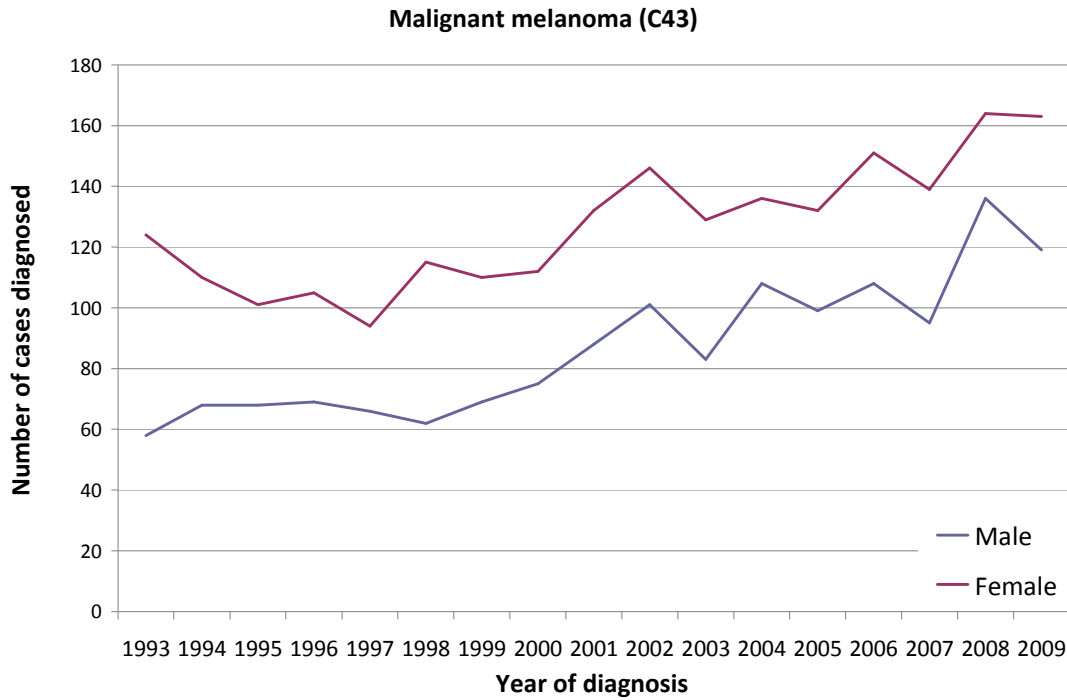
1.4 The incidence of both non-melanoma and melanoma skin cancers has been increasing over recent decades, with women more likely to be diagnosed with malignant melanoma than men. Between 1984 and 2005, the incidence of malignant melanoma for both males and females almost trebled. Figures available for non-melanoma skin

¹ World Health Organisation (WHO) Ultraviolet Radiation and the INTERSUN Programme

² NI Cancer Registry

cancer between 1993 and 2009 show that incidence for both sexes increased from 2,081 cases to 3,301 cases.

Figure 1: Melanoma cases in Northern Ireland from 1993-2009³



1.5 Overexposure to UVR is widely accepted as the underlying cause for skin cancer, with experts believing four out of five cases could be prevented by adopting simple precautions⁴. Other, less severe, health effects of UVR damage include sunburn, premature aging, immunosuppression and eye damage. Natural sunlight is not the only culprit – artificial ultraviolet light from sunbeds is also increasingly a major factor and has been designated by the International Association for Research on Cancer (IARC) as a category 1 carcinogen (the same category as tobacco), to be avoided especially by those under 35 years of age.

1.6 Skin cancer is a serious health issue. In Northern Ireland between 2007 and 2009, malignant melanoma alone caused an average of 52 deaths per year - an increase of 9 deaths when compared to the previous three year period - and left

³ Northern Ireland Cancer Registry

⁴ World Health Organisation – www.who.int/uv/sun-protection/en/

hundreds of people requiring surgery to remove melanomas. While overall survival rates for malignant melanoma for both sexes in Northern Ireland are the best in Europe⁵, increased public awareness around the importance of early detection will help to increase survival rates further.

HISTORY OF SKIN CANCER PREVENTION IN NORTHERN IRELAND

1.7 Prevention and early detection have been the focus of efforts to tackle the rise in skin cancer in Northern Ireland. Work in this area was significantly advanced in 1990 with the then Eastern Health and Social Services Board's response to the "Europe Against Cancer" initiative, which was co-ordinated by the Ulster Cancer Foundation (UCF). The Board initiated a campaign aimed at raising awareness about the dangers of overexposure to the sun and the signs and symptoms of malignant melanoma.

1.8 That campaign was extended to cover all of Northern Ireland through the Regional Care in the Sun Group. This group identified the need for a Melanoma Strategy and, in 1997, was involved in producing a Strategy for the prevention, diagnosis and treatment of skin cancer. In April 1998, the Department of Health, Social Services and Public Safety (DHSSPS) established the Northern Ireland Melanoma Strategy Implementation Group (NIMSIG) co-ordinated by UCF. This multi-sectoral group meets four times each year and brings together the appropriate interested groups including DHSSPS, Health and Social Care organisations, Investing for Health Partnerships, District Councils, the Health and Safety Executive for Northern Ireland, and the Department of Education, as well as community, voluntary and private sector interests.

1.9 In 2006, a review of the Melanoma Strategy was undertaken by UCF on behalf of the DHSSPS. The review recognised that progress made on delivering the strategy was a direct result of dedicated work carried out by the implementation group, and that a number of successful outputs/outcomes had been achieved. Examples include:

- initiatives targeting at-risk groups;
- development of a *care in the sun* website;
- establishment of a sunbed subgroup;
- banning sunbeds from all District Council premises;
- annual campaigns for skin cancer week, including media work;

⁵ Eurocare 4

- resources development for numerous campaigns;
- policy development for education sector;
- Living Willows programme in schools;
- Percy Piglet and Dora Duck – a puppet show with educational programme for pre-school children;
- beach and playground signs;
- information at airports for travelers;
- a survey of the health and safety practices of sunbed parlours; and
- three omnibus surveys to monitor population awareness and behaviour.

1.10 The Department is aware that skin cancer prevention initiatives have also been carried out in Northern Ireland, outside the work of NIMSIG, by voluntary organisations such as Cancer Research UK and Action Cancer.

1.11 The 1997 strategy was the first of its kind in the UK, and provided a valuable steer for the development of skin cancer programmes in Northern Ireland. However, with the emergence of new lifestyle patterns, scientific evidence, and evidence on effective intervention, a new ten-year strategy and action plan needs to be in place to inform action by a range of stakeholders.

UV RADIATION

1.12 UVR is the main factor responsible for skin cancers, including basal cell carcinoma, squamous cell carcinoma, and malignant melanoma - the most dangerous form of skin cancer. Broad-spectrum UVR (solar radiation) was first listed as a human carcinogen in 2002⁶.

1.13 In August 2009, the International Agency for Research on Cancer published a report which reclassified UV-emitting tanning devices into the highest cancer risk category, i.e. 'carcinogenic to humans' (Group 1). The International Agency for Research on Cancer made its decision following a review of research and concluded that the risk of malignant melanoma is increased by 75% when use of tanning devices

⁶ Tenth Report on Carcinogens

starts before 35 years of age. In addition, several case-control studies linked sunbed use to a raised risk of developing melanoma of the eye⁷.

1.14 Ultraviolet radiation is composed of three wavelengths: UVA, UVB and UVC. While UVC doesn't cause skin cancer, UVA and UVB play different roles when it comes to tanning, burning and photo-aging.

1.15 UVA accounts for up to 95 percent of the solar UV radiation reaching the Earth's surface. It can penetrate into the deeper layers of the skin and is believed to play a major part in skin aging and wrinkling. Importantly, recent studies strongly suggest that it may also initiate and exacerbate the development of skin cancers. UVA rays are present all year round and can penetrate glass and clouds. Thus we are exposed to large doses of UVA throughout our lifetime.

1.16 UVB is responsible for burning, tanning, and acceleration of skin aging. It has a key role in the development of skin cancer. The intensity of UVB varies by season, location and time of day. As a general rule, the highest levels of UVB reach the UK between the hours of 10am and 4pm between April and October.

1.17 DHSSPS launched a Service Framework for Cancer Prevention, Treatment and Care in February 2011. Standard 11 of the Framework refers to the need for the public to be made aware of the dangers of UV exposure (through sun or sunbeds) and steps they can take to reduce their risk of skin cancer.

LIFESTYLE AND ENVIRONMENTAL FACTORS

1.18 There are many reasons for the continuing increase in the number of skin cancer cases around the world. Increased availability of relatively low cost air travel has encouraged more frequent travel from areas of high latitude, populated mostly by fair skinned people, to areas of lower latitude where darker skinned populations have evolved. Northern Ireland residents are increasingly availing of cheaper air travel to make frequent trips abroad which often results in intense overexposure to sun over short periods for both adults and children. Many people also overexpose themselves to the sun in an attempt to maximise tanning during the days when Northern Ireland has sunshine.

⁷ IARC. A review of human carcinogens – Part D: radiation. Lancet Oncology Vol 10 August 2009

1.19 An additional factor is that improvements in living conditions have seen the average life expectancy of adults increase significantly since the twentieth century. A consequence of living for longer is that cancers have more time to develop. Half of the cases of non-melanoma skin cancer are in men over 70 years of age and in women over 73 years of age. However, half of the cases of malignant melanoma occur under 58 years of age for males and under 57 years of age for females, which is younger than for many cancers.

1.20 Many patients who are presenting with skin cancer today will have damaged their skin several years ago through intense overexposure to the sun and sunbed use. In many cases, this damage will have occurred before the dangers of UV radiation were well-known and publicised. Studies have shown that intermittent sun exposure and a history of sunburns present a higher risk factor for melanoma than chronic sun exposure⁸.

CLIMATE CHANGE

1.21 Climate change is perhaps the most significant environmental concern facing the world today and is likely to impact on health and increase certain health risks. Reports from the Department of Health (London) in 2002⁹ and from the Department of Health and the Health Protection Agency in 2007¹⁰ have helped us to begin to understand the likely health effects of climate change. Locally, the report "Preparing for a changing climate in Northern Ireland" produced by the Scotland and Northern Ireland Forum for Environmental Research in February 2007 has been a helpful addition to this analysis.

1.22 One of the key predictions is that increased exposure to sunlight outdoors may lead to a rise in skin cancers. Any health effects will depend on the exposures of UVR received by the population, and this will depend on a combination of the levels in the environment and patterns of behaviour. Climate change can be expected to affect both of these. For example, decreases in summer cloud cover would be associated with increases in UVB radiation. This could have a disproportionate impact on outdoor workers who would face increased UVB exposure. Other predicted changes in the

⁸ Gandini S, Sera F, Cattaruzza MS et al. (2005) Meta-analysis of risk factors for cutaneous melanoma: II. Sun exposure. *European Journal of Cancer* 41: 45-60.

⁹ Health Effects of Climate Change in the UK. Department of Health. 2002

¹⁰ Health Effects of Climate Change in the UK. Department of Health and the Health Protection Agency. February 2008.

climate, such as increases in sunshine, reduction in precipitation, and higher temperatures, would be likely to favour patterns of behaviour in the general population involving more outdoor activity, lighter clothing and greater exposure to the sun.

1.23 The Climate Change Act 2008 commits the UK Government to carry out an assessment of the risks to the UK of climate change every five years. The first cycle is required to report to Parliament by 26 January 2012. The risk assessment is being conducted across 11 sectors and a number of cross-cutting themes. The health sector analysis is likely to identify increased exposure to UV radiation linked to a potential rise in the number of skin cancer cases as a key impact of climate change. The risk assessment will also inform the development of a climate change adaptation programme for Northern Ireland which will set out the actions proposed to address future climate risks. The adaptation plan is scheduled to be presented to the Northern Ireland Executive for consideration during 2012.

1.24 Also as ozone levels are depleted, the atmosphere loses more and more of its protective filter function and more solar UV radiation reaches the Earth's surface. The United Nations Environment Programme estimates that a 10 per cent decrease in ozone levels will result in an additional 300,000 non-melanoma and 4,500 malignant melanoma skin cancer cases globally each year.

SUNBED USE

1.25 Sunbeds are the most common type of artificial UV tanning device and their popularity has risen significantly since the 1990s. There are now approximately 400 outlets in Northern Ireland offering sunbed sessions and many people have purchased, or rent sunbeds for their own private home use. Factors such as the current trend for tanned skin, and lack of consistent sunshine in this part of the world have surely contributed to the increase in use of sunbeds.

1.26 Sunbeds work by exposing the user to a quantity of UV radiation, and modern sunbeds are capable of producing irradiation at least the equivalent of Mediterranean sunlight at midday in August. Common preconceptions that somehow sunbed use is safer than exposure to actual sunlight are incorrect and dangerous. An association has been established between increased malignant melanoma incidence and the use of artificial UV devices. The 2009 review by the International Agency for Research on

Cancer Working Group found that first exposure to sunbeds before the age of 35 increased the risk of developing melanoma skin cancer by up to 75%¹¹.

1.27 Sunbed use can also be harmful to eyesight. Without suitable eye protection equipment, UV from sunbeds can damage the user's eyes, risking irritation, conjunctivitis, cataract formation, and, in some cases, eye cancer, including uveal melanomas.

1.28 In 2007, a survey of sunbed premises in 25 out of 26 district council areas in Northern Ireland (332 outlets) was carried out by the Environmental Health Service on behalf of the Sunbed Working Group, a subgroup of NIMSIG. The inspections of premises focussed on an examination of consumer safety, and health and safety standards. The results have been published in the British Journal of Dermatology¹². Included in the key findings were that:

- only 16% of outlets were members of a trade body (Sunbed Association);
- 86% sold tanning accelerators;
- staff generally received training although content and delivery was variable e.g. 14% did not cover skin type assessment;
- while the majority of outlets did assess skin type (90%), only 47% would advise a skin type I customer to avoid using artificial tanning devices;
- 10% did not provide any safety information for customers; and
- there were various mechanisms for controlling levels, duration and frequency of exposure, however, a small proportion of businesses did not set limits on or regulate exposure (2% and 5%).

COMARE REPORT

1.29 The Committee on Medical Aspects of Radiation in the Environment (COMARE) is an independent expert advisory body, which provides advice to Government

¹¹ IARC. A review of human carcinogens – Part D: radiation. Lancet Oncology Vol 10 August 2009

¹² Public at risk: a survey of sunbed parlour operating practices in Northern Ireland Gavin A., Donnelly C., Devlin A., Devereux C., O'Callaghan G., McElwee G., Gordon S., Crossan T., McMahon N., Loan P., Martin S., McPeak L., Caughey J., O'Hagan A.H. British Journal of Dermatology Volume 162, Issue 3 (March 2010), Pages 627 - 632. Published Online: 18 Nov 2009

Departments and the Devolved Administrations in relation to the health effects of natural and man-made radiation.

1.30 In June 2007, at the request of the 4 UK Health Departments, COMARE established a UV sunbed subgroup to provide advice to Government on the health effects of sunbed use. The report, which was published in June 2009, included recommendations to Government and will help to inform future policy development. The recommendations include:

- the introduction of regulation of commercial use of sunbeds;
- inspection of commercial sunbed outlets;
- that Government should review its funding for skin cancer awareness campaigns; and
- further research to be carried out into sunbed usage and associated risks.

SUNBED LEGISLATION

1.31 The Sunbed (Northern Ireland) Act 2011 received Royal Assent on 3 May 2011 and it is expected that the main provisions within the Act will be enacted by April 2012. The Act places a duty on each District Council to enforce the legislation within its district and includes measures to:

- prohibit the use of sunbeds by anyone under 18 years of age;
- prohibit the sale or hire of sunbeds to anyone under 18 years of age;
- prohibit unsupervised use of commercial sunbeds;
- ensure adequate protective eyewear is provided;
- ensure a public information notice on the health risks is displayed;
- ensure users are provided with written information on the health risks;
- prohibit making unfounded/unproven health benefit claims of sunbed use;
- ensure sunbeds adhere to certain standards;
- ensure relevant staff are trained to a certain standard; and
- introduce registration or licensing of sunbed premises or operators.

1.32 Scotland introduced legislation in relation to sunbeds in the Public Health

etc (Scotland) Act 2008 and the provisions of the Act came into operation on 1 December 2009. In England and Wales, the Sunbeds (Regulation) Act 2010 received Royal Assent on 8 April 2010 and the provisions within the Act were enacted by end of April 2011.

VITAMIN D

1.33 In recent years, the health benefits of vitamin D have received considerable media coverage amid reports that many people in the UK are suffering from a deficiency of this particular vitamin. Vitamin D is a fat-soluble vitamin, naturally produced by the human body when exposed to direct sunlight. Exposure to sunlight is the major source of vitamin D in humans and its status in the body reflects sun exposure over the preceding month.

1.34 Vitamin D is essential to human calcium absorption and physiology. Recent research also points to a possible protective link with certain cancers¹³. The ability of skin to produce vitamin D (from sun exposure) varies according to latitude, time of day, season, time outdoors, age (being reduced with increased age) and clothing worn. Vitamin D levels in individuals are determined by a complex interaction between diet, supplementation, and sun exposure. Dietary sources of vitamin D include: oily fish and fish oils; liver; meat; and eggs; as well as a number of processed foods such as breakfast cereals and fat spreads.

1.35 Lack of vitamin D can contribute to impaired bone mineralisation and conditions such as rickets, osteomalacia and osteoporosis. Within Europe, the reported levels of vitamin D have been lowest in the Republic of Ireland and the Netherlands, with the highest levels in Nordic countries where fish is an important part of the diet¹⁴. Health agencies are recognising this as a potentially important health issue and there are discussions currently in Europe around dealing with this by dietary fortification, particularly for specific groups such as older people.

1.36 The time required by a healthy, light-skinned individual to make the necessary vitamin D is typically short and less than the amount of time needed for skin to redden

¹³ Prospective study of predictors of vitamin D and survival in patients with colorectal cancer by Kimmie Ng – British Journal of Cancer (published 8 September 2009)

¹⁴ Ovensen, L., Andersen, R., and Jakobsen, J (2003). Geographical differences in vitamin D status, with particular reference to European countries. *Proc.Nutr.Soc.* **62**, 813-821.

and burn¹⁵. Everyone should be able to find a balance between enjoying the beneficial effects of the sun while not increasing their risk of developing skin cancer.

1.37 While vitamin D is the subject of ongoing research, there does seem to be sufficient available data to suggest that low vitamin D levels should be avoided, and that suboptimal levels of vitamin D are common¹⁶. However, until further research points the way to more robust information on vitamin D, it is important that current advice in relation to sun protection measures is upheld and adhered to.

KEY POINTS

- Skin cancer is the most common form of cancer in Northern Ireland.
- There are approximately 3,128 new cases diagnosed annually – around 261 of which are malignant melanoma, the most serious form of skin cancer.
- An average of 52 people died in Northern Ireland between 2007 and 2009 from skin cancer.
- UV radiation is the main factor responsible for skin cancers.
- Artificial ultraviolet light from sunbeds is a major factor and has been designated by the International Association for Research on Cancer as a category 1 carcinogen.
- A report by COMARE in 2009 recommended regulating the commercial use of sunbeds.
- Healthy light-skinned individuals need only spend a short amount of time in the sun, without tanning or burning, to make enough vitamin D.
- Legislation to regulate the sunbed industry completed its passage through the Northern Ireland Assembly in March 2011 and was granted Royal Assent on 3 May 2011.

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http://www.sunsmart.org.uk/prod_consump/groups/cr_common/@nre/@sun/documents/generalcontent/cr_052628.pdf

¹⁶ Hypponen, E. and Power, C. (2007). Hypovitaminosis D in British adults at age 45 y: nationwide cohort study of dietary and lifestyle predictors. *Am.J.Clin.Nutr.* **85**, 860-868; Reginster, J.Y. (2005). The high prevalence of inadequate serum vitamin D levels and implications for bone health. *Curr.Med.Res.Opin.* **21**, 579-586

CHAPTER 2 – SKIN CANCER

2.1 There are three main types of skin cancer that can invade skin tissue. These are - basal cell carcinoma, squamous cell carcinoma, and the deadliest form – malignant melanoma.

Basal Cell Carcinoma

2.2 Basal cell carcinoma is the most common malignant disease in humans. It occurs in patients usually after the age of thirty and becomes more common with increasing age. It is more common in people with light skin colour, and those who have a significant outdoor exposure to sunlight. The tumour may also be associated with certain genetic disorders. Basal cell carcinomas are more common in men and 85% of the tumours occur in the head and neck area. Only 10-15% of the tumours develop in sun protected skin. Basal cell tumours make up about two thirds of skin tumours with 1,818 diagnosed in Northern Ireland in 2006 out of a total of 2,718.

Clinical Features

2.3 Basal cell carcinoma may present as flesh coloured pearly raised papules and nodules on sun exposed skin. They may bleed and ulcerate. They may also present as indurated plaques with redness and scaling on the skin. Occasionally, basal cell carcinomas may be coloured.

Clinical Behaviour

2.4 Basal cell carcinomas are locally aggressive, destroying local tissue but rarely, if ever, metastasise, i.e. spread, to other organs in the body. However, because of their location on the head and neck area they may cause the patient considerable disfigurement and require extensive surgery with reconstruction.

Squamous Cell Carcinoma

2.5 Squamous cell carcinoma is the second most common carcinoma in the skin. The incidence of squamous cell carcinoma continues to rise. This form of skin cancer is associated with increasing age, light skin colour, immuno-suppression, genetic disorders and chronic, cumulative exposure to ultraviolet light.

Clinical Features

2.6 Squamous cell carcinomas frequently present as nodules with a scale or crust. They are usually skin coloured but on occasion may be brown or red in colour. They can occur anywhere on the body but are most commonly found in areas of chronic sun exposure such as the head and neck area. They can cause considerable disfigurement to the patient as extensive surgery and reconstruction may be required to remove and deal with the squamous cell carcinoma.

Prognosis

2.7 Squamous cell carcinomas do have the potential to spread to other parts of the body (metastasise), including the liver and lymph nodes. Squamous cell carcinomas of the skin cause 14 deaths per year in Northern Ireland (1993-2007).

Malignant Melanoma

2.8 Malignant melanoma is increasing in incidence year on year. This form of skin cancer can occur in any age group but is more common in those aged between 55 and 74 years, with almost 5% of cases occurring in people less than 25 years old. The number of cases increases with age. It is more common in fair skinned people and may arise as a new mole or in an existing mole which shows evidence of change. Most malignant melanomas will be coloured although a small number will have no clinical colour and will have the same colour as surrounding skin.

Treatment and Clinical Behaviour

2.9 Treatment for malignant melanoma involves complete surgical removal of the lesion and depending on the thickness of the melanoma, the prognosis will vary. Malignant melanomas do have the potential to metastasise and spread to other organs in the body. They are, therefore, the most common skin cancer to cause death. This form of skin cancer results on average in 52 deaths in Northern Ireland each year.

KEY RISK FACTORS

Skin type

2.10 Skin cancer can afflict any person, regardless of skin colour, therefore the adoption of sun protective behaviours should be a consideration for every single person.

However, certain skin types will be more at risk than others. People who are very fair skinned, with red or fair hair and who burn easily in the sun, are at most risk of developing skin cancer. They should, therefore, avoid sun exposure and protect the skin with clothing. Those with skin types III and IV need to take precautions when exposed to strong sunshine and during prolonged periods. Types V and VI need only protect themselves during prolonged UVR exposure. The different skin types are clearly shown using the Fitzpatrick Scale¹⁷ (Table 1 below).

2.11 All children, due to the particularly sensitive nature of their skin, should be protected from overexposure to the sun, whether they tan easily or not. Protection should take the form of shade and clothing in the first instance, with at least SPF 15 applied as an additional precaution¹⁸. Babies under six months old should never be left in direct sunlight, as much to prevent overheating, as to protect against skin damage. Awareness of different skin types will be important in achieving the correct balance between protecting from overexposure to UV, while also accessing the benefits provided by the sun.

Table 1 – Fitzpatrick Skin Type Scale

Skin Type	Skin Colour	Characteristics
I	White; very fair; red or blond hair; blue or hazel eyes; freckles	Always burns, never tans
II	White; fair; red or blond hair; blue, hazel, or green eyes	Usually burns, tans with difficulty
III	Cream white; fair with any eye or hair colour; very common	Sometimes mild burn, gradually tans
IV	Brown; typical Mediterranean Caucasian skin	Rarely burns, tans with ease
V	Dark Brown; mid-eastern skin types	Very rarely burns, tans very easily
VI	Black	Never burns, tans very easily

¹⁷ Fitzpatrick TB: Soleil et peau. J Med Esthet 1975;2:33034

¹⁸ NICE public health guidance 32 – Skin cancer: prevention using public information, sun protection resources and changes to the environment.

2.12 A key consideration when making recommendations based on skin type is that of individual perception. A recent study carried out in Northern Ireland¹⁹ highlighted disparities between perception and reality in relation to skin type, with only 40% of the indigenous population believing themselves to be skin types I and II, and over 30% stating their type as V or VI. The reality is that the vast majority of the population indigenous to Northern Ireland would belong to either skin type I or II. Skin type is genetically determined and will not vary over time.

2.13 Further information and advice on skin types can be accessed on the Care in the Sun website (www.careinthesun.org).

A large number of moles

2.14 Moles are overgrowths of melanocytes, the skin cells that produce melanin pigment which causes skin colour, and are very common, with most people developing between 10 and 40 by the time they reach adulthood. The presence of a large number of moles (more than 50) can indicate a higher risk of developing malignant melanoma.

Personal or family history of skin cancer

2.15 People with a personal or family history of skin cancer should take extra care in the sun and ensure that they regularly check their skin for any changes which may indicate the presence of skin cancer.

Overexposure to sun

2.16 A history of sunburns has been linked to both malignant melanoma and basal cell carcinoma incidence²⁰. Sunburn is a sign of severe UV damage to the skin and is the result of a failure to use adequate sun protection. For individuals who do not burn easily, sun protection must still be applied if they are at risk of high cumulative lifetime UV exposure, as this can also be a factor for skin cancer.

¹⁹ Dr Anna Gavin - *Personal Communication* – Sept 2008

²⁰ Leiter, U. and Garbe, C. Epidemiology of melanoma and non-melanoma skin cancer – the role of sunlight. *Adv Exp Med Biol*, 2008, **624**, 89-103

Sunbed Use

2.17 People who use artificial tanning devices such as sunbeds, particularly under the age of 35, are at increased risk of skin cancer. Such devices should never be used for cosmetic purposes, especially not by people who show characteristics of other risk factors for skin cancer, i.e. fair skin, light eyes, multiple moles.

KEY POINTS

- There are three main types of skin cancer – basal cell carcinoma, squamous cell carcinoma, and malignant melanoma.
- Malignant melanoma is the least common but most serious form of skin cancer.
- People with certain skin types are more at risk of skin cancer, such as those with very fair skin and red or fair hair.
- Children, due to the sensitive nature of their skin, should always be protected in the sun.
- The presence of a large number of moles (50 or more) can indicate a higher risk of developing malignant melanoma.
- A history of sunburn has been linked to both malignant melanoma and non-melanoma skin cancer incidence.
- Sunbed use, especially by the under 35 year old age group, should be avoided.

CHAPTER 3 – INTERNATIONAL AND NATIONAL EXPERIENCE AND BEST PRACTICE

INTRODUCTION

3.1 The increase in skin cancer incidence is a worldwide problem. Lifestyle is contributing to this because people are living longer and spending more leisure time outdoors and in hot climates. Countries experiencing very high rates of skin cancer are typically those where high UV levels are common and populations are primarily made up of light skinned people. In California, based on current rates, it is expected that 1 person in 5 will suffer from skin cancer²¹, whereas in Australia, rates are even higher with 2 in every 3 Australians developing skin cancer at some stage in their lives²².

LEADING INTERNATIONAL PRACTICE

3.2 In Australia, significant efforts have been made over the past 30 years to halt the increased incidence of skin cancer. The Australian strategy from 1980 has recently been showing tangible rewards with falling incidence rates in men and women younger than 40 years. A similar story is emerging in New Zealand, another country experiencing very high rates of skin cancer.

3.3 Denmark is a country similar to Northern Ireland in climate, and which is also seeing growing rates of skin cancer. Denmark's innovative use of social networking media aimed at targeting young people has proven to be very successful.

Australia

3.4 The SunSmart programme in Victoria, Australia, has made the state a world leader in skin cancer prevention. SunSmart was appointed the World Health Organisation Collaborative Centre for Ultraviolet Radiation in 2004. Achievements, since its inception in 1980 include:

- decreased rates of melanoma and non-melanoma skin cancer in young people;

²¹ www.cdph.ca.gov

²² www.sunsmart.com.au

- positioning Victoria as a national leader in sunbed legislation across Australia; and
- increased use of hats and sunscreens, reductions in sunburn and decreased desire for a tan.

3.5 A key factor in SunSmart’s success has been the development of effective mass media campaigns. The advertisement *Tattoo*, launched in 2003 with the byline “Skin cancer - it’s killer body art”, was aimed at 17-24 year olds and challenged their beliefs around safe tanning. This campaign used television, radio and additional promotional material, and was adopted across Australia and picked up internationally, including in Northern Ireland. It was followed by the *No tan is worth dying for* campaign in March 2008, which made the link between malignant melanoma and sunbed use. Based on interviews featuring a young Melbourne woman who died as a result of malignant melanoma, it attained awareness ratings measuring 71% of the Victorian population.

3.6 In order to stretch the program’s budget as far as possible, SunSmart ensured that unpaid media and working in partnership was a key component of its marketing strategy. Each year between 2006-2009, the organisation held a minimum of three launches, issued 15-20 media releases and directly generated at least 150 impressions across television, radio and print mediums.



Slip-Slop-Slap

3.7 The well known SunSmart jingle, Slip! (on a shirt), Slop! (on sunscreen), Slap! (on a hat), used to promote sun protection behaviours, has been picked up by many countries around the world. In September 2008, two new messages were added – “Seek some shade”, and “Slide on a pair of sunglasses”. In order to educate children on all five sun protection measures, SunSmart launched a new song, *SunSmart Countdown*, which will be sent to all SunSmart schools and early childhood services across Victoria.

Sunbed legislation

3.8 SunSmart worked in partnership with the Department of Human Services to develop a campaign entitled *Solariums – fashion to die for*. This ultimately resulted in the State of Victoria leading the way in sunbed legislation, with the Radiation Amendment (Tanning Units and Fees) Regulations introduced from February 2009. Included in the regulations were requirements for operators to ban people aged under 18 years, and those with skin type I from using their sunbeds.

3.9 Other initiatives include:

- the SunSmart Schools programme which supports each member school with policy advice and curriculum resources to encourage best practice;
- a SunSmart programme for secondary schools designed to appeal to the older age group; and
- efforts to increase shade expertise in Victoria and provision of shade in the community.

New Zealand

3.10 New Zealand has one of the highest incidence rates for malignant melanoma in the world. In 2006, there were almost 2000 new cases recorded, out of a population size of 4.3m people. Non-melanoma cases are not required to be registered but best estimates put the number of cases at 67,000 in 2006.

3.11 Given the causal link between sunburn and melanoma, the New Zealand summer SunSmart campaign 2007/08 was aimed at parents, highlighting the dangers of childhood sunburn. The campaign "*Never let your child get sunburnt*" came with the byline "*A child's sunburn now could lead to melanoma skin cancer later on in life*". The mass media campaign comprised a television commercial, a flier/leaflet, a poster, and radio advertisements.

3.12 Melanoma rates in New Zealand for people under 40 appear to be leveling off, implying that sun safety programmes are beginning to work.

Denmark

3.13 Skin cancer is the fastest growing cancer in Denmark with an average of 8,000 new cases diagnosed each year. The country has a similar climate to that of Northern Ireland and approximately one quarter of the population regularly travels for sun holidays. In addition, a considerable percentage of young people are regular users of sunbeds.

3.14 The Danish Cancer Society runs a year-round communication campaign which:

- in January/February focuses on sun holidays abroad;
- from May to August emphasises sun protection for the Danish summer; and
- in November/December targets sunbed use.

3.15 For the summer campaign, a non-prescriptive approach was adopted. Rather than advising people to avoid the sun, the focus was on becoming “friends” with the sun and knowing when to seek shade.

3.16 Due to the high percentage of young people in Denmark using sunbeds, a sunbed campaign using digital media was launched. A video highlighting the dangers of sunbed use received over 13 million hits in the first year and became the most viewed site on MySpace.

NATIONAL

Northern Ireland Melanoma Strategy Implementation Group (NIMSIG)

3.17 NIMSIG has been responsible for co-ordinating skin cancer prevention programmes in Northern Ireland since 1998. Working within a limited budget, the group has achieved considerable success largely due to the formation of excellent partnerships. The work carried out by NIMSIG has been presented at World, European and UK conferences and is recognised internationally as best practice. Examples of its initiatives are set out in more detail in Chapter 1.

SunSmart (UK)

3.18 SunSmart is the UK's national skin cancer prevention campaign, commissioned by the four UK Health Departments, including Northern Ireland, and run by Cancer Research UK. The campaign provides evidence-based information about skin cancer

and sun protection, and targets a specific high risk audience group each year. In 2009, the campaign focused on teenagers and young adults, with the key messages being the importance of avoiding sunburn and the dangers of sunbed use. SunSmart in the UK is an integrated public health campaign built around the following key elements:

- Research
- Public communication
- Professional support
- Policy development

The Skin Cancer Hub

3.19 The Skin Cancer Hub is a website²³ developed by the South West Public Health Observatory and funded by the National Cancer Action Team. Its purpose is to help inform and support professionals and the public about skin cancer prevention and early diagnosis. The website includes:

- resources available for access providing information on skin cancer;
- skin cancer profiles providing comparative data on cases in England;
- information and guidance on social marketing strategies; and
- a commissioning toolkit for health professionals to assist in the setting up of prevention and early diagnosis programmes.

3.20 The Observatory is currently in the process of producing a toolkit for local authorities, written in collaboration with the Chartered Institute of Environmental Health. The new toolkit will provide practical advice for local authorities in setting up skin cancer awareness and prevention programmes.

KEY POINTS

- Countries experiencing high levels of skin cancer typically have both high UV levels and populations made up primarily of light-skinned people.
- The SunSmart program in Victoria, Australia is a world leader in skin cancer prevention. Its slogan – Slip! Slop! Slap! has been picked up by many countries around the world including Northern Ireland.

²³ <http://www.swpho.nhs.uk/skincancerhub/default.aspx>

- The state of Victoria introduced legislation regulating the sunbed industry in 2009.
- The Danish Cancer Society launched a digital media campaign aimed at young people using sunbeds. A video which formed part of the campaign received over 13 million hits on the internet during its first year.
- Resources on skin cancer prevention are available on the UK Skin Cancer Hub website.

CHAPTER 4 – PREVENTION AND EARLY DETECTION

INTRODUCTION

4.1 Northern Ireland has been active in raising awareness about the dangers of skin cancer from the early nineties (see www.careinthesun.org). While the number of cases of skin cancer has continued to rise, this is largely influenced by the significant time gap between the damage caused by UV exposure and actual appearance of skin cancer.

4.2 Surveys have shown that awareness of the need to protect from the dangers of too much sun has increased among the Northern Ireland population, with 90% of the population using some methods of sun protection. While the signs are there that public information campaigns have had an impact, much work still needs to be done to reduce the number of skin cancer cases.

4.3 The only way to make a significant impact on the incidence of skin cancer is through the modification of behaviour and attitudes towards tanning. Behavioural and lifestyle factors are major contributors when it comes to the development of skin cancer, with the long-term risks often ignored in favour of short-term benefits such as tanned skin. A recent study²⁴ suggested that for the communication of information about skin cancer to be effective, messages need to focus on the impact of sun exposure and inadequate skin protection for people's appearance, not just their health. Another study²⁵ highlighted the importance of combining threatening health information with a strong message about how to take healthy actions.

4.4 The Northern Ireland Omnibus Survey²⁶, carried out every three years, collates information on sun protection behaviour and attitudes and will be a useful tool in monitoring the impact of this Strategy and Action Plan. In order to help achieve changes

²⁴ Thomas, K., Hevey, D., Pertl, M., Ní Chuinneagáin, S., Craig, A. and Maher, L. (2011), Appearance matters: The frame and focus of health messages influences beliefs about skin cancer. *British Journal of Health Psychology*, 16: no. doi: 10.1348/135910710X520088

²⁵ McMath, B.F. & Prentice-Dunn, S. (2005). Protection Motivation Theory and Skin Cancer Risk: The role of individual differences in responses to persuasive appeals. *Journal of Applied Social Psychology*, 35, 621-635.

²⁶ Trends in reported sun bed use, sunburn, sun care knowledge and attitudes in a UK region: results of a survey of the Northern Ireland population BJD-2010-0842.R1 Accepted July 2010

in attitudes and behaviours, it is vital that appropriate messages in terms of skin cancer prevention are accurately relayed to the public.

UV INDEX

4.4 The UV index is an international standard measurement of how strong the ultraviolet radiation from the sun is at a particular place on a particular day. It is a scale primarily used in daily forecasts aimed at the general public. The sun index itself depends on two factors: the position of the sun in the sky; and the amount of cloud cover.

Table 2: Recommendations for protection according to the day's predicted UV index

UV Index Number	Exposure Level
2 or less	No danger to average person
3 to 5	Little risk of harm from unprotected sun exposure
6 to 7	High risk of harm from unprotected sun exposure
8 to 10	Very high risk of harm from unprotected sun exposure
11+	Extreme risk of harm from unprotected sun exposure

4.5 The purpose of the index is to help people to protect themselves effectively from UV light. It is recommended that people protect themselves (for example, by applying sunscreen to the skin and wearing a hat) when the UV index is 3 or higher. An additional factor to take into consideration when looking at the UV index is individual skin type.

PREVENTION

4.6 While the messages in terms of protection have not radically changed in recent years, it is vitally important that they are regularly repeated in order to make an impact on people's behaviour in terms of sun protection. Delivering the "care in sun" message should not be viewed as a priority solely within the confines of this Strategy. There are many strategies and policies across a range of organisations, including those in both the statutory and voluntary sectors, which could incorporate or deliver messages about skin cancer prevention and early detection. Some examples include:

- Physical activity;

- Health and safety at work; and
- Early years.

4.7 There are a number of measures recommended to reduce the risk of getting skin cancer, and these include:

Reducing hours of exposure

4.8 In Northern Ireland, the UV radiation levels are highest in the middle of day between 11am and 3pm. Therefore, when the sun is strong, it is advised that some time is spent in the shade during these hours, particularly for those with skin types I and II. Peak times will differ from country to country, so it is necessary to advise that extra care should be taken when abroad. A useful gauge to employ is the shadow test – when the shadow is shorter than the individual, the risk of sunburn is substantial. Particular care should be taken when holidaying abroad in places where there is strong sunshine and temptation to make use of it for tanning.

Shade

4.9 Shade alone can reduce overall exposure to UV radiation by up to 75%²⁷. Trees are a source of natural shade, however, other forms such as beach umbrellas or portable canopies, can be used if necessary. When in the shade, be aware of reflections from surroundings such as water, sand and snow, as these can increase UV-exposure.

Clothing

4.10 In order to limit the amount of skin exposed to UV radiation, clothing made from close weave fabric will offer the most protection. Long sleeved tops, trousers, wide brimmed hats, and wrap-around sunglasses should be worn to offer comprehensive cover. High Ultraviolet Protection Factor (UPF) sun-suits, similar to wetsuits in appearance, are a practical option for protecting children when swimming or at the beach.

²⁷ Parsons PG, Neale R, Wolski P, Green A. The shady side of solar protection. *Medical Journal of Australia* 1998; 168 (7): 327-330.

Use of sunscreen

4.11 Sunscreens do not offer 100% protection from UV rays and should always be used as an accompaniment to shade and protective clothes. It is important to stress that they should not be used to increase sun exposure time but to increase protection during unavoidable exposure. Consumers should be aware that there are many different types of sunscreen on the market and attention should be given to choosing one which will offer sufficient protection. NICE do not recommend the use of any sunscreens lower than SPF 15²⁸. Attention should also be given to the UVA rating with a minimum of 4 stars denoting the level of UVA protection required. The percentage reduction in UVB by sunscreens with various SPF numbers is shown in the table below.

Table 3. Percentage reduction in ultraviolet radiation (UVB) by SPF number

SPF Number	% Reduction UVB
2	50
4	75
8	88
15	93
30	97
60	98

4.12 Application is key when it comes to sunscreen use. The British Association of Dermatologists state that to cover the body of an average adult, at least six full tablespoons of sunscreen should be used (equating to approximately 36g)²⁹. This should be applied 30 minutes before going out in the sun, and then reapplied at least every two hours, and after being in water, as both water and towel drying will remove sunscreen.

Avoid sunbeds

4.13 A clear link has been established between sunbed use and skin cancer. A review by the International Agency for Research on Cancer Working Group found that first

²⁸ NICE public health guidance 32 – Skin cancer: prevention using public information, sun protection resources and changes to the environment.

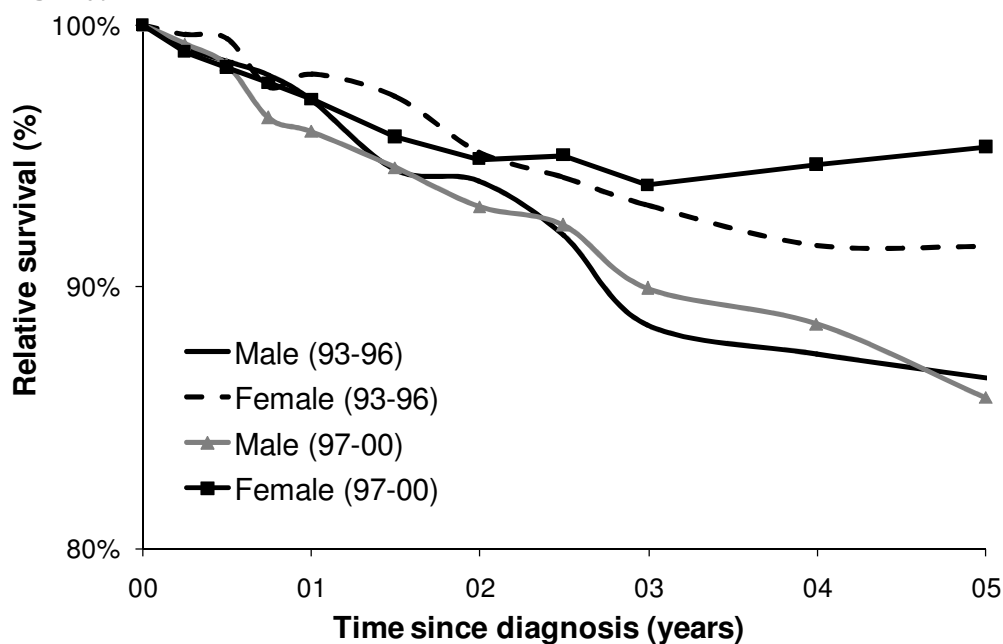
²⁹ British Association of Dermatologists – www.bad.org.uk

exposure to sunbeds before the age of 35 years old increases the individual's risk of developing malignant melanoma by 75 percent³⁰. Artificial UV radiation should therefore only be used for a limited range of medical purposes, and only on medical advice and under supervision. It should not be used for the acquisition of a suntan.

EARLY DETECTION

4.14 Skin cancer, when diagnosed at an early stage, has an excellent prognosis for cure by surgical removal. Most skin cancers can be removed with very little harm, however, the longer a cancer remains, the greater the chances are that it will spread and appear in other organs of the body. Therefore, it is very important that skin cancer is detected as early as possible. The graph below shows survival rates for malignant melanoma patients diagnosed between 1993-1996 and 1997-2000 in Northern Ireland. As the graph clearly shows, women who suffer from malignant melanoma have better survival rates than men.

Figure 2: Relative survival from malignant melanoma (Source - Northern Ireland Cancer Registry)



³⁰ IARC. A review of human carcinogens – Part D: radiation. Lancet Oncology Vol 10 August 2009

Self skin examination

4.15 Whether or not an individual is careful to use protective measures to prevent overexposure to UV radiation, it is important to perform a self skin examination regularly to enable changes to be easily detected. For women, most melanomas are found on the legs, whereas for men the most common area is the back. Other types of skin cancer often affect areas that catch the most sun, e.g. the head, neck, shoulders or arms.

4.16 The greater number of moles a person has on their body, the higher the risk of malignant melanoma. Individuals with more than 50 moles are at greater risk. Other risk factors include belonging to skin types I or II, a family history, or a history of sunburns.

4.17 Self examination can be carried out using a hand-held mirror and the entire body should be checked, from the soles of the feet to the scalp. It might be useful to keep digital images of any moles which may cause concern. These can then be compared to newer images on a regular basis to observe if there have been any changes in size, shape or colour.

4.18 Extra care and attention should be paid to self skin examinations by those aged over 55 as this age group is more likely to develop skin cancer. Ethnicity is also an important factor. While people with darker skin are less likely to develop skin cancer, they are also more likely to detect it when it has reached a later stage, often resulting in a more serious prognosis.

The key message is “if in doubt, get it checked out” - by a GP³¹.

4.19 A doctor should be consulted if any of the following signs are noted as they may indicate a malignant melanoma:

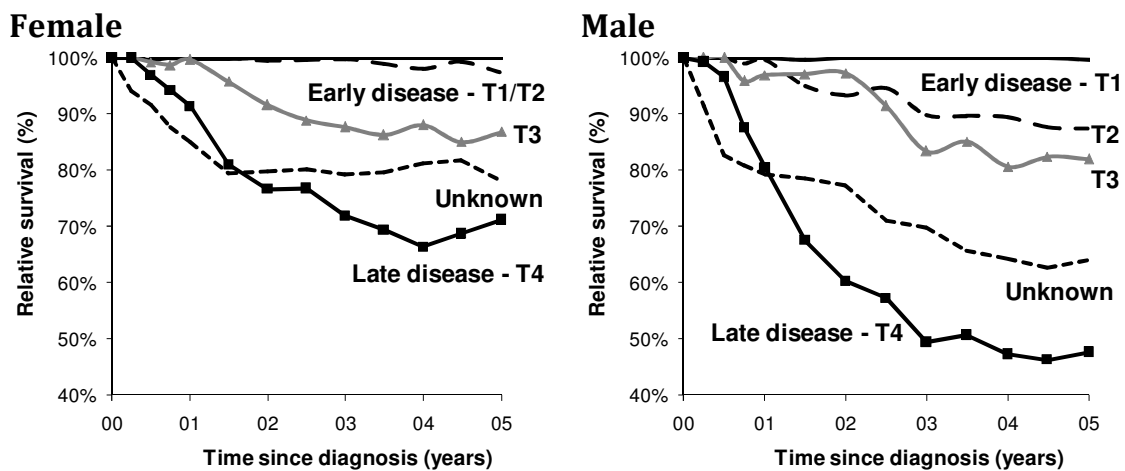
- changing shape, particularly getting an irregular outline;
- changing colour - getting darker, becoming patchy or multi-shaded;
- an existing mole becoming larger than 6mm (the size of the blunt end of a lead pencil) or a new mole growing quickly;
- a mole starting to itch or become painful;
- bleeding or becoming crusty; or
- looks inflamed.

³¹ British Association of Dermatologists

Early diagnosis and survival rates

4.20 The earlier melanoma is detected and treated, the better the prognosis for the future. A study carried out by the Northern Ireland Cancer Registry (figure 3) shows that almost 29% of women with late stage T4 melanoma had died from their melanoma five years from diagnosis. This is to be compared with no melanoma deaths after five years for women diagnosed with early stage T1 disease. Survival for men is poorer than for women at later stages of the disease with five year survival of just under 48% for stage T4 disease compared with 71% for women.

Figure 3: The effect of early diagnosis on survival (Source – Northern Ireland Cancer Registry)



Notes:

Ages up to 99 only and excludes death certificate only cases (1 patient)

Relative survival is the ratio of the observed survival of a given group of patients to the expected survival for a group of persons in the general population with the same characteristics

EARLY REFERRAL FOR TREATMENT

4.21 Standard 13 within the DHSSPS *Service Framework for Cancer Prevention, Treatment and Care*, relates to fast and appropriate referral for patients with suspected cancer. The framework states that all people with signs and symptoms that might suggest cancer should be appropriately assessed by their GP and referred promptly on to hospital for further tests if needed.

4.22 Patients with suspected malignant melanoma should receive an urgent referral to dermatology/plastic surgery for appropriate assessment and treatment. Suspected squamous cell carcinomas should also be referred urgently to dermatology or plastic

surgery while basal cell carcinomas are usually slow growing tumours and require referral but do not require urgent referral to hospital.

KEY POINTS

- It is recommended that people protect themselves when the UV index is 3 or higher.
- When it is sunny, limited time should be spent outdoors during peak times such as between 11am and 3pm.
- Sunscreens do not offer 100% protection and should be used only as an accompaniment to shade and protective clothes.
- Sunbeds should be avoided at all costs.
- Early detection of skin cancer is very important and a self skin examination should be performed approximately once a month.
- "If in doubt, get it checked out" by a GP.

CHAPTER 5 – AIM, OBJECTIVES AND TARGETS

INTRODUCTION

5.1 The overall long-term aim of the strategy is to reduce the incidence of skin cancer and deaths from it among people in Northern Ireland.

PRIORITY GROUPS

5.2 While the strategy of reducing skin cancers and particularly malignant melanoma, is aimed at the population as a whole, and takes into account the key risk factors outlined in Chapter 2 of this document, two key target groups have been identified as requiring particular action. They are:

- children and young adults; and
- people who spend a significant amount of time outdoors including, those who regularly participate in outdoor sports.

Children and young adults

5.3 Given the direct correlation between sun exposure, especially sunburn in childhood, and skin cancer, the importance of protecting a child's skin from overexposure to the sun cannot be overstated. This caution is reinforced by the fact that on average, a significant percentage of an individual's lifetime contact with the sun will occur before adulthood. Not only do parents and carers have a role in protecting and advising children in relation to care in the sun, but schools and youth organisations can also have an impact.

5.4 A recent study³² highlighted the dangers of frequent severe sunburn in childhood by linking it with a certain type of non-melanoma skin cancer. Skin cancer can occur more than twenty years after episodes of overexposure therefore it is vital that protective measures are used from babyhood. Babies under six months old should never be left in direct sunlight as their skin is ultra-sensitive to burning. Furthermore, they are unable to regulate their body temperature to the same extent as an adult and are at risk of

³² Leiter, U. and Garbe, C. Epidemiology of melanoma and non-melanoma skin cancer – the role of sunlight. *Adv Exp Med Biol*, 2008, **624**, 89-103

overheating in direct sunlight. Teenagers and young adults appear to be more impervious to “care in the sun” messages than other age groups. A survey carried out in 2008³³ showed that young people aged 16-25 were more likely to:

- use sunbeds;
- spend time in the sun unprotected;
- use a sunscreen lower than SPF 15;
- receive more than one sunburn a year; and
- describe their skin as a type which never burns and tans easily.

5.5 Good sun protection behaviours learned as children do not appear to carry over into adolescence³⁴, therefore it is important that special measures are targeted at this group in order to ensure improvements in sun care behaviour.

Outdoor workers and sports participants

5.6 Many occupations such as farming, construction, gardening, and street cleaning require workers to spend long hours outdoors. This presents an increased risk, even in Northern Ireland, during the summer months. A significant proportion of work carried out by outdoor workers will be done between the hours of 11am to 3pm when ultraviolet radiation is at its peak, therefore advising workers to seek shade during this peak time is not always practical. However, there are other measures employers could take to reduce risk to employees, e.g. providing protective clothing and sunscreen, and changing working patterns to ensure that wherever possible, employees are working in the shade. It is common for outdoor workers to spend many years in their occupations, so their exposure to intense UV rays occurs throughout their lives.

5.7 Likewise, many people who practice outdoor sports in Northern Ireland, such as golf, sailing or football, are at considerable risk of overexposure to sunlight with all its associated consequences. Regular spectators of outdoor sports are also at risk.

5.8 While cumulative sun exposure is not believed to lead to malignant melanoma, it is a factor for basal cell carcinoma. The wearing of protective clothing e.g. broad brimmed hats, and sunscreen is recommended.

³³ Omnibus Survey – September 2008 - NISRA

³⁴ Bristol Business School – Social Marketing-Based Strategy for Sun Protection Interventions (p. 20)

OBJECTIVES

1. To increase public awareness regarding the dangers of overexposure to UV radiation from sunlight and from artificial tanning devices.
2. To reduce overall use of artificial tanning devices.
3. To increase individual and organisation-wide practice of sun safety behaviours.
4. To increase awareness about the early signs of skin cancer and the need for prompt attention.
5. To encourage earlier detection and treatment of malignant melanomas.
6. To promote further research into knowledge, attitudes and behaviour and the epidemiology of skin cancer.

TARGETS

The baseline figures for the following targets were established through the Northern Ireland Omnibus Survey carried out by NISRA in 2008. As the survey runs every four years, the year for achievement for each of the targets is 2016.

- By 2016 to increase by 10% the proportion of men who take protective measures while in the sun to 90% (80% in 2008).
- By 2016 to increase by 5% the proportion of the population who check their skin for signs of cancer, once a month or more, to 31% (26% in 2008).
- By 2016 to reduce by 30% the proportion of 16-25 year olds currently using sunbeds (from a baseline of 5% of all 16-25 year olds)

CHAPTER 6 – ACTIONS

6.1 This chapter identifies specific actions, timescales and delivery partners under each of the six objectives listed in chapter 5. The delivery partners listed with the actions are not exclusive as the efforts of many organisations will be required in a sustained way in order to achieve the strategy’s objectives.

Objective 1: increasing public awareness regarding the dangers of overexposure to UV radiation from sunlight and from artificial tanning devices

No.	Action	Timescale	Delivery Partners
1	Develop and deliver a sustained campaign to raise awareness of skin cancer among both the general public and health and educational professionals taking account of NICE guidelines on providing public information to prevent skin cancer	Ongoing	PHA, HSC Board and Trusts, UCF, DEL, voluntary sector and employers
2	Deliver ongoing UV protection message to adolescents through use of social networking sites e.g. Facebook, Twitter, Youtube.	Ongoing	PHA, UCF
3	Development of annual media activity plan	Annual	PHA, UCF

Objective 2: to reduce overall use of artificial tanning devices.

No.	Action	Timescale	Delivery Partners
1	Bring forward legislation placing controls on sunbed use	Short-term	DHSSPS
2	Continue to raise awareness on the risks associated with using sunbeds	Ongoing	PHA, UCF, District Councils, voluntary sector
3	To ensure compliance with the Sunbeds Act through effective enforcement	Ongoing	District Councils

Objective 3: to increase individual and organisation-wide practice of sun safety behaviours

No.	Action	Timescale	Delivery Partners
1	Develop and co-ordinate resources for schools to deliver care in the sun message	Medium-term	PHA, DE, UCF
2	Encourage more shaded areas in educational and childcare establishments, either through planting of trees, or building of shade structures	Long-term	PHA, DE, DEL
3	Liaise with outdoor workers, and their employers, in relation to the employers’	Medium-term	PHA, UCF, HSE, District Councils

	duty to protect employees under Health and Safety, and to promote the care in the sun message		
4	Liaise with sporting event organisers to ensure both participants and spectators are aware of need for sun protection	Ongoing	PHA, UCF, DCAL, SportNI, District Councils
5	Encourage relevant organisations i.e. the leisure, tourism and travel industries, the met office etc to promote safe sun message and explore possibilities for cross-border co-operation	Ongoing	PHA, UCF, DCAL, IPH, District Councils
7	Liaise with planning authorities/regional planning service to examine possibilities for including shaded areas in new plans for public areas	Medium-term	PHA, DOE, District Councils
8	Ensure that adequate information resources are available for those who require them	Ongoing	PHA, UCF

Objective 4: to increase awareness about the early signs of skin cancer and the need for prompt attention.

	Action	Timescale	Delivery Partners
1	Develop a campaign to raise public awareness around the symptoms and signs of skin cancer	Short-term	PHA, HSC Board and Trusts, UCF
2	Ensure that advice on suspicious lesions is readily available to members of the public	Short-term	PHA, HSC Board and Trusts, UCF

Objective 5: to encourage earlier detection and treatment of malignant melanomas

	Action	Timescale	Delivery Partners
1	Provide training for frontline health professionals to ensure they recognise potential early signs of skin cancer	Medium-term	PHA, HSC Board and Trusts, UCF
2	Train community pharmacists to offer advice on sun protection behaviours and to recognise potential early signs of skin cancer when they are presented with them	Medium-term	PHA, HSC Board and Trusts, UCF
3.	Explore possibility of including sun safe messages and training for detecting early signs of skin cancer in relevant professional training courses (including undergraduate and postgraduate courses)	Medium-term	PHA, Universities and FE colleges

Objective 6: to promote further research into knowledge, attitudes and behaviour and the epidemiology of skin cancer.

	Action	Timescale	Delivery Partners
1	Continue to obtain information on lifestyle behaviours and attitudes with respect to care in the sun through the Omnibus Survey in order to inform future policy	Every 4 years	DHSSPS, UCF
2	Ensure that significant initiatives undertaken in relation to care in the sun are properly evaluated	Ongoing	PHA, HSC Board and Trusts, UCF
3	Investigate other surveys carried out with a view to adding in questions about care in the sun behaviours	Short-term	DHSSPS, PHA, UCF, NI Cancer Registry
4	Continue to use information provided by the Northern Ireland Cancer Registry on skin cancer statistics in order to inform and evaluate actions and policy	Ongoing	DHSSPS, PHA, HSC Board and Trusts, NI Cancer Registry
5.	Share best practice with organisations working in skin cancer prevention/detection elsewhere in the UK and Ireland to allow consistency of information and avoid duplication	Ongoing	DHSSPS, PHA, HSC Board and Trusts, voluntary organisations

CHAPTER 7 – MAKING IT HAPPEN

INTRODUCTION

7.1 In order to ensure that the overall long-term aim of the strategy is achieved, effective partnership working between key organisations will be essential. This will involve working across government departments, local government, other statutory agencies, and the voluntary and community sectors. If the objectives outlined in Chapter 5 are to be met, the necessary structures must be put in place from the beginning to oversee the programme of action set out in Chapter 6. The success of the Action Plan will rest on the availability of sufficient resources and systematic arrangements for monitoring and accountability. Funding for the Action Plan will be subject to the availability of resources following the spending review for 2011-2015.

MANAGING THE ACTION PLAN

7.2 The Public Health Agency (PHA) will be responsible for the overall co-ordination and monitoring of the implementation of the Action Plan. It will establish a multi-agency Implementation Group to oversee and drive forward the actions outlined in the Plan.

RESEARCH

7.3 The Implementation Group will consider the need for additional research to assist effective implementation and monitoring of the Strategy and Action Plan.

REVIEW

7.4 The PHA will provide a bi-annual report to the Department reporting on progress made against the action plan and updating on any new developments made in the area of skin cancer prevention. A formal review will be undertaken after five years to allow an in-depth assessment of progress made against the objectives and targets.

APPENDICES

APPENDIX 1 - TABLES

Relative survival from malignant melanoma by sex and Breslow depth: patients diagnosed in 1998-2002 and followed up to the end of 2007

Sex and breslow depth	Number of patients diagnosed*	Relative survival		
		1 year	3 years	5 years
Male				
T1 – Less than 1mm (early disease)	171	100%	100%	99.7% (93.2%, 100.0%)
T2 – 1-2mm	72	99.5% (91.5%, 101.7%)	89.8% (78.2%, 97.2%)	87.3% (74.1%, 96.7%)
T3 – 2-4mm	57	96.9% (85.8%, 100.0%)	83.4% (68.1%, 94.2%)	81.9% (65.0%, 95.0%)
T4 – 4mm or more (late disease)	51	80.4% (65.5%, 90.3%)	49.4% (33.7%, 64.3%)	47.6% (31.0%, 64.2%)
Unknown	42	79.3% (62.7%, 89.9%)	69.7% (51.3%, 84.0%)	64.0% (44.5%, 80.7%)
All patients	393	94.9% (91.7%, 97.3%)	86.7% (81.9%, 90.7%)	84.5% (79.1%, 89.3%)
Female				
T1 – Less than 1mm (early disease)	295	100%	100%	100%
T2 – 1-2mm	106	100%	99.8% (92.5%, 100.0%)	97.4% (88.3%, 100.0%)
T3 – 2-4mm	72	99.6% (91.1%, 100.0%)	87.6% (74.7%, 96.6%)	86.8% (72.1%, 97.9%)
T4 – 4mm or more (late disease)	49	91.3% (77.1%, 99.0%)	71.9% (53.7%, 86.7%)	71.2% (50.8%, 89.2%)
Unknown	87	85.0% (74.7%, 91.9%)	79.2% (67.0%, 88.7%)	77.9% (64.3%, 89.2%)
All patients	609	97.3% (95.2%, 98.8%)	93.9% (90.6%, 96.3%)	92.8% (89.4%, 96.0%)

Notes:

Source – NI Cancer Registry

Ages up to 99 only and excludes death certificate only cases (1 patient)

Relative survival is the ratio of the observed survival of a given group of patients to the expected survival for a group of persons in the general population with the same characteristics

Number of cases and incidence rates by sex and year of diagnosis

Malignant melanoma (C43)

All persons

Year of diagnosis	Number of cases	Percentage of all cancers ex. NMSC	Crude rate per 100,000 persons	European age standardised incidence rate per 100,000 persons (95% CI)	World age standardised incidence rate per 100,000 persons (95% CI)
1993	182	2.9	11.1	11.2 (9.6,12.9)	8.9 (7.5,10.2)
1994	178	2.9	10.8	11.1 (9.4,12.7)	8.7 (7.3,10.0)
1995	169	2.7	10.2	10.4 (8.8,12.0)	8.0 (6.7,9.2)
1996	174	2.7	10.5	10.7 (9.1,12.3)	8.4 (7.1,9.7)
1997	160	2.5	9.6	9.5 (8.0,11.0)	7.5 (6.3,8.7)
1998	177	2.7	10.5	10.3 (8.7,11.8)	7.6 (6.4,8.8)
1999	179	2.8	10.7	10.3 (8.8,11.8)	8.1 (6.8,9.3)
2000	187	2.9	11.1	11.0 (9.4,12.5)	8.4 (7.2,9.7)
2001	218	3.3	12.9	12.3 (10.6,14.0)	9.4 (8.1,10.7)
2002	247	3.6	14.6	14.0 (12.3,15.8)	10.9 (9.5,12.4)
2003	212	3.0	12.5	11.9 (10.3,13.6)	9.0 (7.7,10.2)
2004	244	3.4	14.3	13.4 (11.7,15.1)	10.3 (8.9,11.7)
2005	231	3.2	13.4	12.5 (10.9,14.2)	9.8 (8.4,11.1)
2006	259	3.5	14.9	13.9 (12.2,15.6)	10.6 (9.3,12.0)
2007	234	2.9	13.3	12.3 (10.7,13.9)	9.7 (8.4,11.0)
2008	300	3.6	16.9	15.6 (13.8,17.4)	11.9 (10.5,13.3)
2009	282	3.3	15.8	14.4 (12.7,16.1)	10.7 (9.4,12.0)

NOTES:

NMSC: Non-melanoma skin cancer

CI: Confidence interval

APPENDIX 2 - ABBREVIATIONS

BCC	Basal Cell Carcinoma
COMARE	Committee on Medical Aspects of Radiation in the Environment
DCAL	Department of Culture, Arts and Leisure
DE	Department of Education
DEL	Department for Employment and Learning
DHSSPS	Department of Health, Social Services and Public Safety
DOE	Department of Environment
HSE	Health and Safety Executive
HSC	Health and Social Care
IARC	International Association for Research on Cancer
IPH	Institute of Public Health
MM	Malignant Melanoma
NICE	National Institute for Health and Clinical Excellence
NIMSIG	Northern Ireland Melanoma Strategy Implementation Group
NISRA	Northern Ireland Statistics and Research Agency
PHA	Public Health Agency
SCC	Squamous Cell Carcinoma
SPF	Sun Protection Factor
UCF	Ulster Cancer Foundation
UPF	Ultraviolet Protection Factor
UVR	Ultraviolet Radiation