

SunSmart Survey 2003-2008 Significant Trends

Executive Summary

SunSmart was the first national skin cancer prevention campaign, launched in 2003, since the Sun Know How Campaign, which ceased in 2000. It is funded by the UK Health Departments and run by Cancer Research UK under guidance from an independent expert advisory panel, the UK Skin Cancer Working Party. This document sets out the results of the omnibus surveys commissioned through the Office for National Statistics to record trends in SunSmart knowledge, attitudes and behaviour between 2003 and 2008.

Key findings

Over this time period there has been a significant trend towards increased awareness of the importance of protecting children, checking moles and going to the doctor about moles as well as avoiding getting sunburnt. No significant trends in attitudes towards the benefits or risks of the sun were observed, although significantly more people reported using shade, covering up and avoiding sunbeds to protect themselves from skin cancer. Overall, reported awareness levels are low as are the proportions of people reporting SunSmart behaviour.

Awareness of actions that cause or reduce the risk of skin cancer

All confidence intervals stated at the 95% level:

- There was a significant increase from **5.2%** (CI: 4.2%, 6.3%) to **12.4%** (CI: 10.4%, 14.4%) in people saying you should 'protect children' to reduce the risk of skin cancer.
- 'Avoid getting sunburnt' was mentioned twice as many times in 2008 as in 2003, increasing from **5.4%** (CI: 4.4%, 6.6%) to **11.7%** (CI: 9.9%, 13.8%).
- More females were aware of the 'avoid sunburn' action in 2008, **14.2%** (CI: 11.3%, 17.0%) than in 2003, **5.7%** (CI: 4.3%, 7.3%).
- Between 2003 and 2008 the percentage who mentioned 'should check moles and go to the doctor about moles' to reduce the risk of skin cancer increased substantially from **3.3%** (CI: 2.4%, 4.1%) to **11.0%** (CI: 9.2%, 13.0%) although still low.
- There were significant improvements in the awareness that 'checking moles' could reduce the risk of getting skin cancer for all age-groups over 25. The change, however, was not significant for teenagers and young adults (16-24).

Attitudes towards the sun or getting a suntan

- No statistically significant changes were observed in people's perceptions of the positive effects of the sun on their looks or the negative effects of the sun on their image and health.

Behaviour likely to reduce the risk of skin cancer

- More people said they spent time in the shade to protect themselves from the sun/skin cancer in 2008, **41.0%** (CI: 37.9%, 44.2%) than in 2003, **34.8%**; (CI: 32.4%, 37.2%).
- The percentage of people who said they 'covered up' to protect themselves from the sun/skin cancer increased over the last five years from one in four, **26.8%**; (CI: 24.6%, 29.1%) in 2003 to almost two fifths, **39.9%**; (CI: 36.7%, 43.1%) in 2008.
- More people over 25 'covered up' to protect themselves from the sun in 2008 than in 2003. There was no significant shift in behaviour for teenagers and young adults (aged 16-24).
- There was a significant increase in those who said they 'avoided sunbeds' to protect themselves from skin cancer between 2003 and 2008, from **1.2%** (CI: 0.7%, 1.9%) to **7.5%** (CI: 5.9%, 9.4%), although the level was still low.

Background

The first *SunSmart*, baseline, survey was carried out in February 2003, just prior to the launch of the campaign, more than two years after funding for the *Sun Know How Campaign* ceased. With funding from the UK Health Departments, regular SunSmart surveys were carried out to monitor any changes in SunSmart knowledge, attitudes or behaviour. The campaign aim is to increase the profile of skin cancer and effective methods of sun protection. Specifically, the following objectives were set:

- increase knowledge of the causes of skin cancer and importance of early detection amongst defined target groups
- increase awareness of actions that can be taken to prevent skin cancer
- positively influence attitudes to sun protection

Given the modest funding and size of the population it was always agreed that behaviour change targets would be unrealistic. It was hoped, however, that SunSmart might start to change attitudes and possibly impact on behaviour over time.

Notes

- SunSmart surveys were carried out in February and September during 2003, 2004 and 2005. In 2006 the survey was only carried out in September, and in 2007 and 2008 only in February/March.
- This document generally highlights the trends between 2003 and 2008, which were statistically significant.
- The surveys varied slightly across the years, both in terms of which questions were asked and the options available as answers. The questions were a mix of unprompted and prompted.
- The document is based on a selection of the questions from the survey, which reflects the current priorities of the SunSmart campaign.
- The weighted sample size differs for each survey, as the Table 1 shows.
- The results have been analysed for four age-groups: 16-24, 25-44, 45-64 and 65 and over.
- To check for significant changes over time, a linear regression was fitted. The significance of the trend is reported in the tables in the column *Sig. trend*, based on being significant at the 5% level in a two-tailed test.
- All confidence intervals are for the 95% confidence level, and are reported using the abbreviation CI.

Table 1: Sample size by sex, 2003-2008 (weighted values)

Survey	Males	Females	Total
February 2003	889	959	1,848
September 2003	811	1,021	1,832
February 2004	797	980	1,777
September 2004	823	947	1,770
February 2005	856	929	1,785
September 2005	601	624	1,225
September 2006	559	619	1,178
February 2007	531	610	1,141
March 2008	517	570	1,087

Section I: Awareness

Question 1: What actions should you take to reduce the risk of skin cancer? [Unprompted]

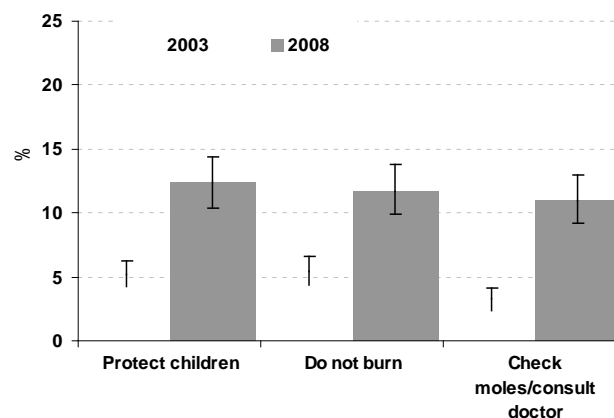
- Overall, there were significant and positive trends over time in knowledge of the ways to reduce the risk of skin cancer for the options 'protecting children', 'avoiding sunburn' and 'checking moles/consulting the doctor about moles' (Table 2 & Figure 1). A change of awareness of 'avoiding sunbeds' was only significant for those aged 65 and over.

Table 2: Awareness overall, 2003-2008

Action	2003			2008		
	%	95% CI		%	95% CI	
Protect children	5.2	4.2	6.3	12.4	10.4	14.4
Do not burn	5.4	4.4	6.6	11.7	9.9	13.8
Check moles/consult doctor	3.3	2.4	4.1	11.0	9.2	13.0
Avoid sunbeds*	11.6	9.8	13.5	18.0	15.7	20.4

*Only included in 2006-2008 surveys

Figure 1: Change in awareness, significant changes overall, 2003-2008



- Other options available which did not show any significant trends between 2003 and 2008 include 'staying in the shade', 'covering up', 'using sunscreen' and 'reducing the time spent in the sun'.

a. 'Protect children'

- Overall, there was a significant increase from 5.2% (CI: 4.2%, 6.3%) to 12.4% (CI: 10.4%, 14.4%) in people saying should 'protect children' to reduce the risk of skin cancer.

By sex

- This increase was significant over time for both sexes (Table 3).
- Women were more likely to mention this action than men (Table 3).

Table 3: Awareness of 'protect children' by sex, 2003-2008

Sex	2003			2008		
	%	95% CI		%	95% CI	
Males	3.9	2.6	5.3	8.4	6.1	10.9
Females	6.5	4.9	8.2	15.9	12.9	18.9

By age-group

- Increases for all age-groups, except for the 25-44, were statistically significant (**Table 4**).

Table 4: Awareness of 'protect children' by age-group, 2003-2008

Age-group	2003			2008		
	%	95% CI		%	95% CI	
16-24	2.6	1.0	5.4	9.8	5.3	16.1
25-44	8.4	6.4	10.8	14.0	10.6	18.1
45-64	3.6	2.2	5.5	11.4	8.4	15.2
65+	3.6	1.9	6.0	12.5	8.5	17.4

b. 'Do not burn'

- Overall, 'avoid sunburn' was mentioned twice as many times in 2008 than in 2003, increasing from 5.4% (CI: 4.4%, 6.6%) to 11.7% (CI: 9.9%, 13.8%). The level, however, was still low at around one out of ten people.

By sex

- The overall change was mainly because females were more aware of this action in 2008; 5.7% (CI: 4.3%, 7.3%) mentioned it in 2003 compared with 14.2% (CI: 11.3%, 17.0%) in 2008.
- There was no significant change for males.

By age-group

- Similar improvements in levels of awareness were observed in all age-groups, although only those for 25-44 and 45-64 were statistically significant (**Table 5**).

Table 5: Awareness of 'do not burn' by age-group, 2003-2008

Age-group	2003			2008		
	%	95% CI		%	95% CI	
16-24	5.7	3.2	9.6	10.5	5.8	17.0
25-44	5.8	4.1	7.9	12.1	8.9	15.9
45-64	6.1	4.2	8.3	11.5	8.4	15.2
65+	3.3	1.7	5.7	12.5	8.5	17.4

c. 'Check moles or consult doctor about moles'

- Between 2003 and 2008 the percentage who mentioned 'should check moles and go to the doctor about moles' to reduce the risk of skin cancer increased substantially from 3.3% (CI: 2.4%, 4.1%) to 11.0% (CI: 9.2%, 13.0%).

By sex

- There were significant increases in awareness of this action for both sexes (**Table 6**).

Table 6: Awareness of 'check moles/consult the doctor' by sex, 2003-2008

Sex	2003			2008		
	%	95% CI		%	95% CI	
Males	2.5	1.6	3.8	7.7	5.4	10.0
Females	3.8	2.7	5.2	13.8	11.0	16.6

By age-group

- There were significant improvements in the awareness that this could reduce the risk of getting skin cancer for all people over the age of 24 (**Table 7**).

Table 7: Awareness of ‘check moles/consult the doctor’ by age-group, 2003-2008

Age-group	2003			2008		
	%	95% CI		%	95% CI	
16-24	3.0	1.3	5.9	15.0	9.4	22.2
25-44	3.5	2.2	5.2	11.5	8.4	15.2
45-64	4.0	2.6	6.0	10.4	7.4	14.0
65+	1.3	0.4	3.2	8.6	5.3	12.9

d. ‘Avoid sunbeds’

Please note: This question was only included in the surveys from 2006 onwards.

- Overall, there was no improvement between 2006 and 2008 in the awareness level about sunbed use.
- In 2008 around one out of five 18.0% (CI: 15.7%, 20.4%) said they should avoid sunbeds.
- There were no significant trends for either sex.

By age-group

- There was a significant increase in awareness of the dangers of sunbeds for people aged 65 and over, rising from 4.1% (CI: 1.7%, 6.5%) in 2006 to 17.6% (CI: 12.7%, 22.5%) in 2008.

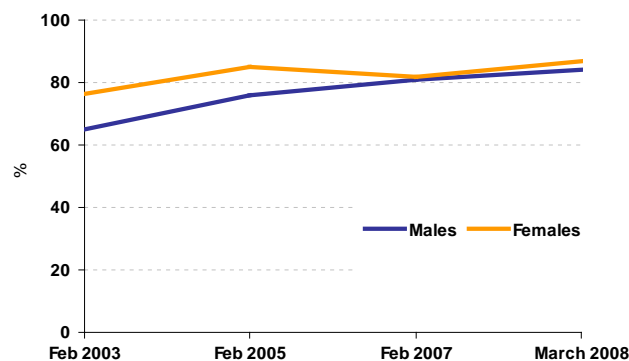
Question 2: How important do you think sun-beds are to increase the risk of skin cancer? [Prompted]

- Overall, there was no significant change in the percentage saying ‘sunbeds increase the risk of skin cancer’ (85.6%; CI: 83.4%, 87.6% in 2008).

By sex

- The percentage of males who thought that sunbeds were important in increasing the risk of skin cancer rose over the last five years from 65.0% (CI: 61.8%, 68.1%) in 2003 to 84.3% (CI: 81.1%, 87.4%) in 2008.
- There was an increasing trend for females, but it was not statistically significant (**Figure 2**).

**Figure 2: Using sunbeds increases the risk of skin cancer, by sex
Proportion that agrees, 2003-2008**



By age-group

- Only people in the two age-groups over 45 showed significant trends over time (**Table 8**).

Table 8: Agree sunbeds increase the risk of skin cancer by age-group, 2003-2008

Age-group	2003			2008		
	%	95% CI		%	95% CI	
16-24	73.3	68.0	78.7	86.4	80.6	92.2
25-44	72.1	68.6	75.5	85.3	81.7	89.0
45-64	71.9	68.2	75.5	86.3	82.8	89.8
65+	65.8	60.9	70.7	84.9	80.3	89.5

Continued overleaf

Section II: Behaviour

Question 3: Do you personally do anything to protect yourself from the sun/skin cancer (2008)? [Unprompted]

- Overall, the behaviour of people towards protecting themselves from the sun/skin cancer remained unchanged over the period 2003-2008 with around nine in ten people (87.5%; CI: 85.4%, 89.4%) saying that they do protect themselves in 2008.

Question 4: What do you do to protect yourself from the sun/skin cancer? [Unprompted]

Please note: This question was asked only to those who answered yes to question 3. Thus, the total sample sizes here are slightly smaller than in the previous section.

- Overall, more people said they ‘stayed in the shade’, ‘covered up’, ‘checked moles’ and ‘avoided sunbeds’ in 2008 than in 2003 (**Table 9**).
- However, there was no significant change in people’s behaviour over time regarding ‘using sunscreen/suntan lotion¹’ or ‘limiting time spent in the sun’.

Table 9: Behaviour change, by action, 2003-2008

Action	2003			2008		
	%	95% CI		%	95% CI	
Stay in the shade	34.8	32.4	37.2	41.0	37.9	44.2
Cover up	26.8	24.6	29.1	39.9	36.7	43.1
Avoid sunbeds	1.2	0.7	1.9	7.5	5.9	9.4
Check moles	1.0	0.5	1.5	4.5	3.2	6.0
Use sunscreen	84.2	82.3	85.9	83.9	81.4	86.2
Limit time spent in the sun	10.4	8.9	12.1	15.1	12.9	17.5

a. ‘Stay in the shade’

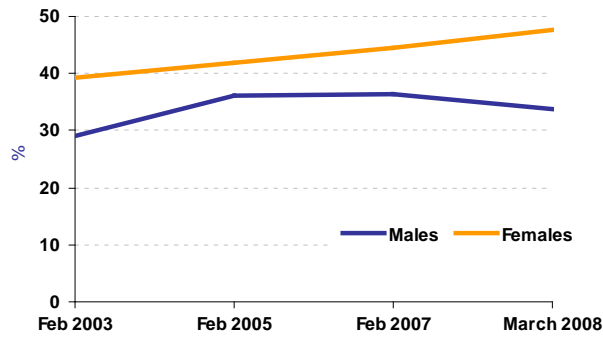
- More people said they ‘stayed in the shade’ to protect themselves from the sun/skin cancer in 2008 (41.0%; CI: 37.9%, 44.2%) than in 2003 (34.8%, CI: 32.4%, 37.2%).

By sex

- The increase overall was mainly because females had changed their behaviour; nearly a half (47.5%; CI: 43.2%, 51.8%) ‘stayed in the shade’ in 2008 compared with just under two fifths (39.3%, CI: 36.1%, 42.6%) in 2003 (**Figure 3**).
- There was no obvious trend for males (**Figure 3**).

¹ To the questions *What should you do to reduce the risk of skin cancer?* and *what do you do to protect yourself from the sun/skin cancer?* there were two options related to sunscreen use: i) High factor sunscreen, and, ii) any sunscreen (factor unspecified). Due to the fact that duplicity between both could have taken place, since people that answer ‘yes’ to use high factor might have also answered ‘yes’ to any sunscreen, the results were grouped. For the grouped answer there were no significant trends between 2003 and 2008. However, for both options separately, some trends in behaviour towards sunscreen are significant. Those are presented in the Appendix at the end of this document.

Figure 3: Stays in the shade by sex, 2003-2008



By age-group

- By 2008, those aged 16-24 were twice as likely to ‘stay in the shade’ as they had been in 2003, at 33.6% (CI: 25.0%, 43.1%) in 2008 compared with 15.3% (CI: 10.8%, 20.8%) in 2003.
- There was a smaller but significant increase in the percentage of 45-64 years ‘staying in the shade’ from 37.7% (CI: 33.4%, 42.1%) in 2003 to 44.7% (CI: 39.3%, 50.2%) in 2008 (p-value gradient: 0.038) (**Table 10**).

Table 10: stays in the shade by age-group, 2003-2008

Age-group	2003			2008		
	%	95% CI		%	95% CI	
16-24	15.3	10.8	20.8	33.6	25.0	43.1
25-44	30.5	26.7	34.6	40.3	34.8	45.9
45-64	37.7	33.4	42.1	44.7	39.3	50.2
65+	52.6	46.6	58.6	40.0	32.9	47.3

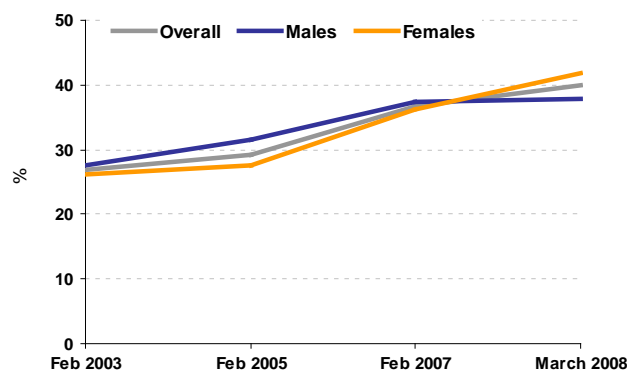
b. ‘Cover up’

- The proportion of people who said they ‘covered up’ to protect themselves from the sun/skin cancer increased over the last five years from one in four (26.8%; CI: 24.6%, 29.1%) in 2003 to almost two fifths (39.9%; CI: 36.7%, 43.1%) in 2008 (**Figure 4**).

By sex

- More males ‘covered up’ in 2008 (38.0%; CI: 33.4%, 42.5%) than in 2003 (27.4%; CI: 24.1%, 30.8%) (**Figure 4**).
- Similarly, females who ‘covered up’ increased from 26.1% (CI: 23.1%, 29.0%) in 2003 to 41.6%, (CI: 37.3%, 45.9%) in 2008 (**Figure 4**).

Figure 4: Covers up by sex, 2003-2008



By age-group

- The three age-groups over 25 showed significant increases in the percentage of people who 'covered up' to protect themselves from the sun between 2003 and 2008 (**Table 11**).
- There was no significant shift in behaviour for teenagers and young adults (aged 16-24).

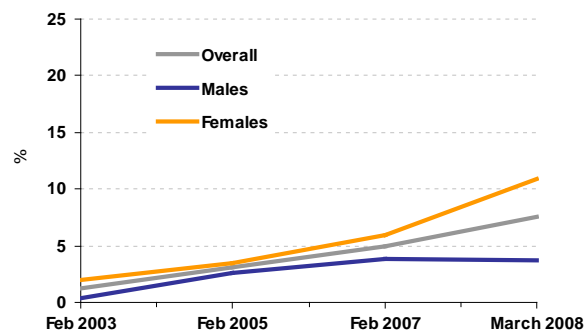
Table 11: Covers up by age-group, 2003-2008

Age-group	2003			2008		
	%	95% CI		%	95% CI	
16-24	22.1	16.8	28.2	23.8	16.3	32.8
25-44	26.7	23.1	30.6	41.7	36.2	47.4
45-64	28.3	24.4	32.6	45.0	39.6	50.5
65+	27.7	22.6	33.3	37.8	30.9	45.2

c. 'Avoid sunbeds'

- There was an increase for those who said they 'avoided sunbeds' to protect themselves from skin cancer between 2003 and 2008, from 1.2% (CI: 0.7%, 1.9%) to 7.5% (CI: 5.9%, 9.4%), although the level was still low (**Figure 5**).

Figure 5: Avoids sun-beds, by sex, 2003-2008



By sex

- There were significant changes observed for both sexes (**Table 12**).

Table 12: Avoids sunbeds by sex, 2003-2008

Sex	2003			2008		
	%	95% CI		%	95% CI	
Males	0.4	0.0	1.0	3.6	1.8	5.3
Females	1.9	1.0	2.9	10.8	8.1	13.5

By age-group

- Both of the age groups 25-44 and 65 and over had significant changes of behaviour; the other two age-groups did not (**Table 13**).

Table 13: Avoids sunbeds by age-group, 2003-2008

Age-group	2003			2008		
	%	95% CI		%	95% CI	
16-24	1.3	0.3	3.9	4.4	1.4	10.0
25-44	1.9	1.0	3.5	8.5	5.7	12.1
45-64	1.0	0.3	2.3	8.4	5.6	11.9
65+	0.2	0.0	1.9	5.7	2.9	10.1

Please note: This measure does not give any indication of the percentage of the population who do use sunbeds, only the percentage who say they avoided sunbeds. It is therefore possible that exactly the same numbers are using sunbeds in 2008 as in 2003.

d. 'Check moles'

- A higher proportion of people reported 'checking moles' to protect from skin cancer in 2008 (4.5%; CI: 3.2%, 6.0%) than in 2003 (1.0%; CI: 0.5%, 1.5%).

By sex

- More females said they 'checked their moles' in 2008 (6.4%; CI: 4.3%, 8.6%) than in 2003 (1.0%; CI: 0.3%, 1.7%).
- There was no significant trend observed for males.

By age-group

- Except for people aged 16-24, all the age-groups showed a positive change in behaviour towards 'checking moles' between 2003 and 2008 (**Table 14**).

Table 14: Checks moles by age-group, 2003-2008

Age-group	2003			2008		
	%	95% CI		%	95% CI	
16-24	1.8	0.4	4.5	2.4	0.5	7.5
25-44	0.9	0.2	2.0	6.0	3.6	9.2
45-64	1.2	0.4	2.6	5.2	3.0	8.0
65+	0.2	0.0	1.9	2.3	0.5	5.3

e. 'See the doctor about moles'

- In 2003, 0.3% (CI: 0.1%, 0.7%) reported 'seeing the doctor about moles'. This had increased to 2.5% (CI: 1.5%, 3.6%) in 2008.

By sex

- The change was significant for females, from 0.2% (CI: 0.0%, 0.5%) in 2003 to 3.1% (CI: 1.6%, 4.6%) in 2008.
- There was no significant trend for males.

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Section III: Attitudes

Question 5: 'How much people agree or disagree with the following statements...[Prompted]

A suntan makes me look more attractive

A suntan makes me look healthier

My skin will age more quickly if I spent time in the sun

I am concern that exposure to the sun/UV may give me skin cancer

- None of the attitudes changed significantly over time (**Table 15**)

Table 15: Attitudes towards the sun or getting a suntan, 2003-2008

Statement	2003			2008		
	%	95% CI		%	95% CI	
Look more attractive	49.2	46.9	51.5	48.2	45.1	51.2
Look healthier	65.4	63.2	67.6	62.8	59.8	65.7
Ages my skin	86.0	84.3	87.5	89.5	87.5	91.2
Produces skin cancer	75.6	73.6	77.5	81.0	78.5	83.3