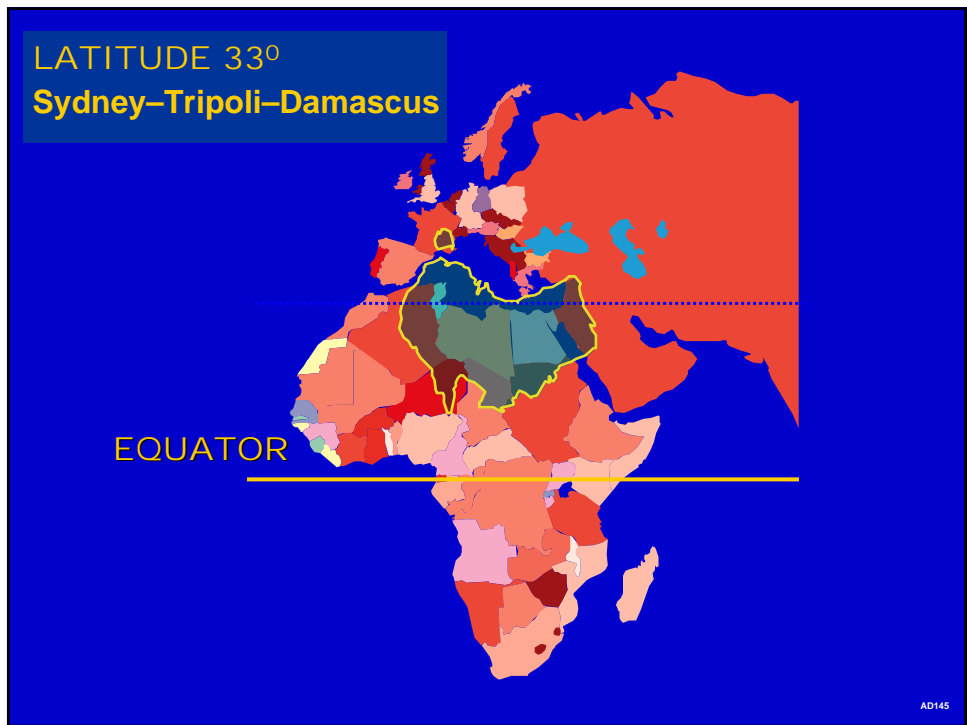
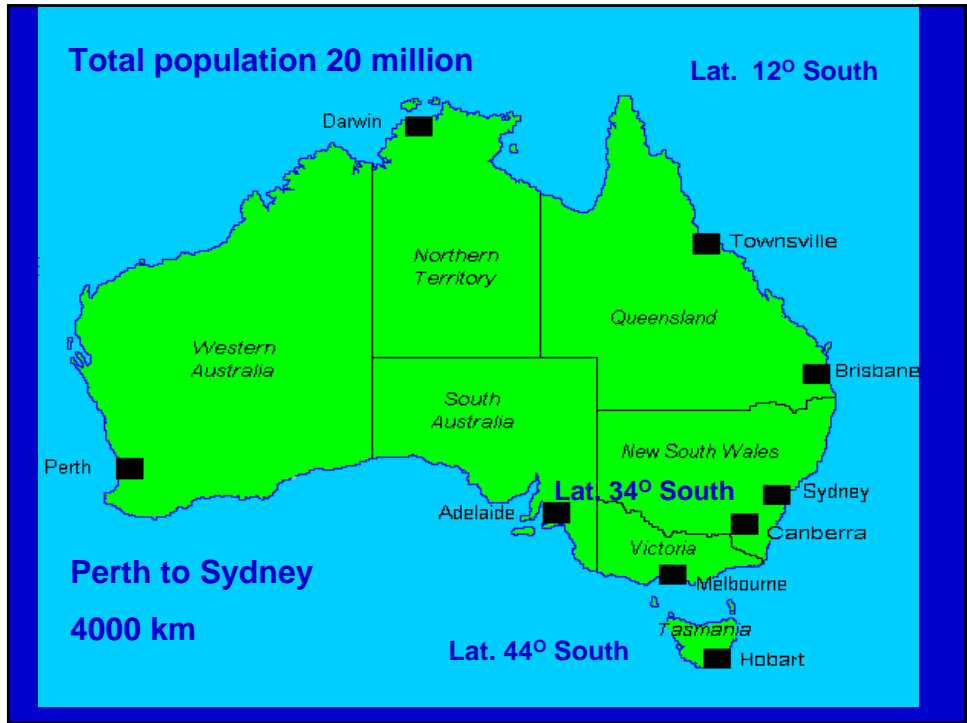


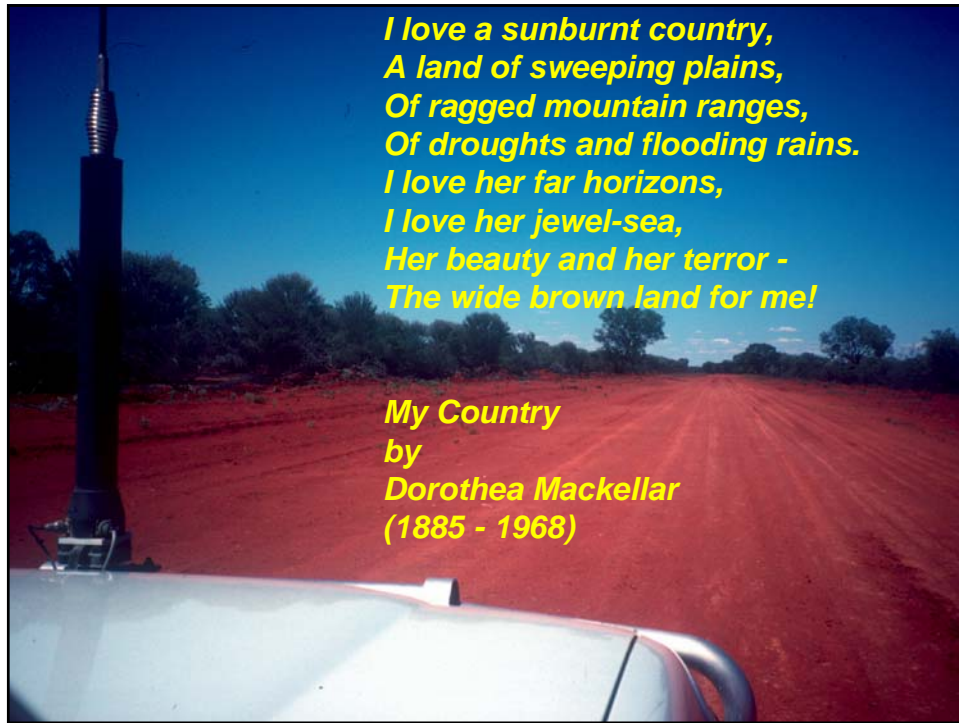
**Lessons learned from the  
Australian experience:  
controlling for the damaging  
effects of ultraviolet rays**

**Lessons learned from the Australian  
experience: controlling for the damaging  
effects of ultraviolet rays**



Cette présentation a été effectuée le 24 octobre 2006, au cours du symposium "Saurons-nous conjuguer santé et changements climatiques?" dans le cadre des Journées annuelles de santé publique (JASP) 2006. L'ensemble des présentations est disponible sur le site Web des JASP, à l'adresse <http://www.inspq.qc.ca/jasp>.





## **The effects of having a European origin population in a very sunny environment— skin cancer**

- ◆ Basal cell carcinoma
- ◆ Squamous cell carcinoma
  - ◆ Melanoma

## Other UV effects

- ◆ Cataract and other eye diseases
- ◆ Production of vit D – benefits to bones
- ◆ ?? Immunosuppression –increased risk of other cancers, diabetes, multiple sclerosis, etc
- ◆ ?? does Vit D reduce cancer

## Other UV effects

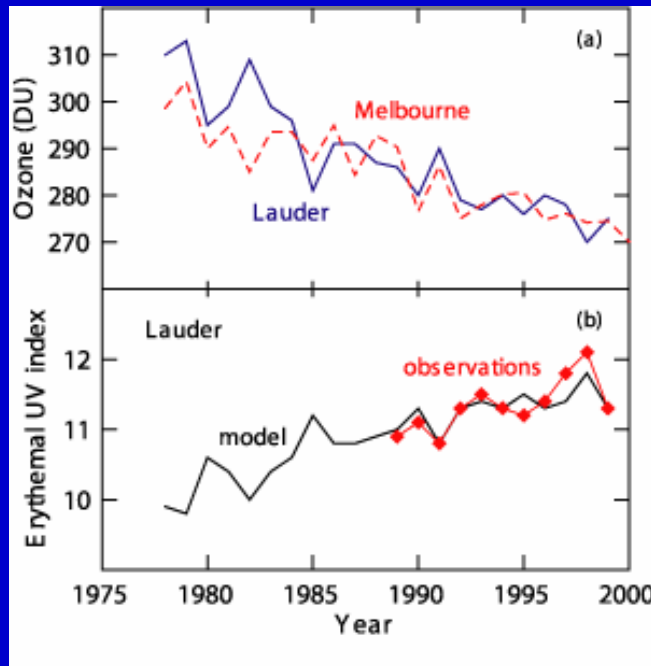
- ◆ UV can affect crop yields and marine plankton (which might have flow-on effects to many marine ecosystems).
- ◆ UV Radiation can degrade plastics, wood, paper, cotton and wool.

# Ozone depletion



## The Ozone 'hole'

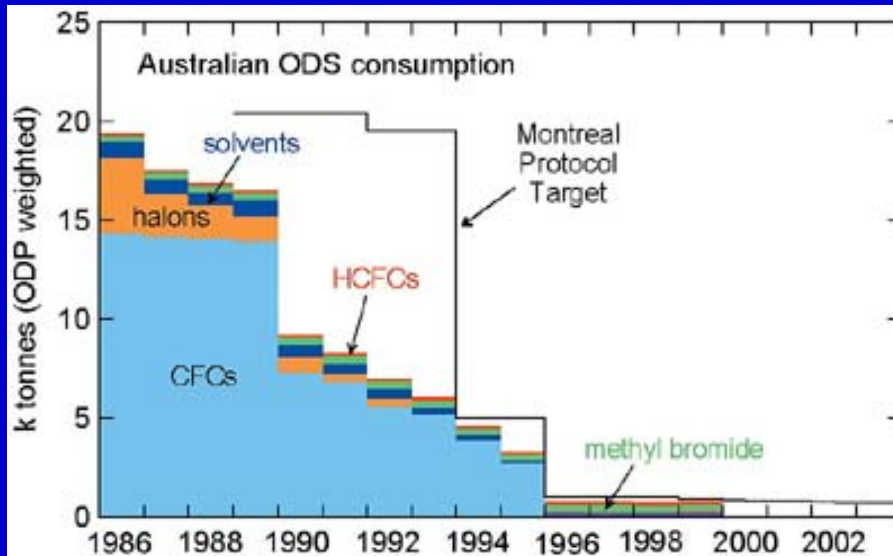
- ◆ First detected in Antarctica in the Southern Hemisphere spring (September and October).
- ◆ In winter at around  $-85^{\circ}\text{C}$ , in ice clouds, chlorine and bromine containing compounds (halons) are converted to compounds that can catalytically destroy ozone.
- ◆ The ozone destruction occurs in spring when the sunlight returns to Antarctica.



Ozone:  
Decrease  
10% per  
decade

Surface UV:  
Increase  
20% per  
decade

### Australian consumption of ozone-depleting substances (ODS) and effect of Montreal protocol



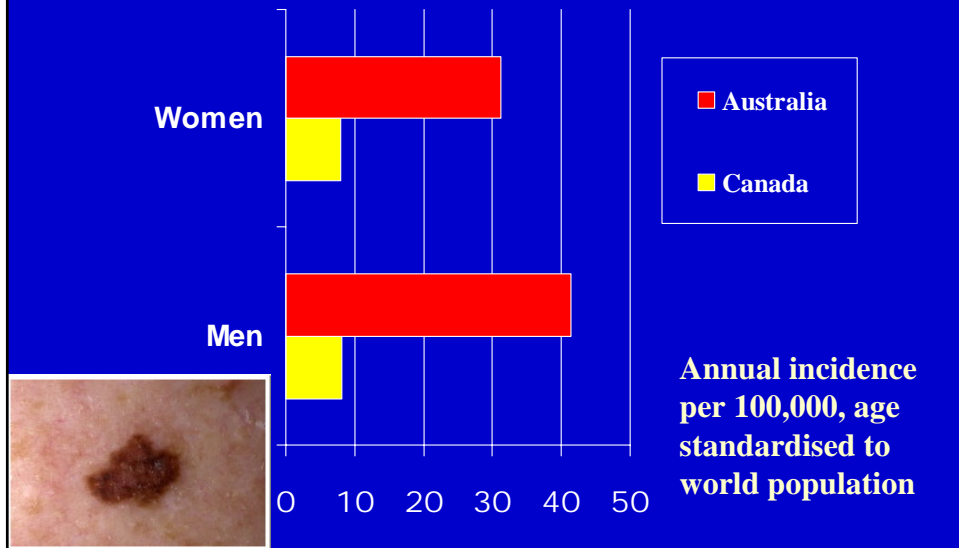
## Ozone recovery

- ◆ Ozone recovery may be achieved by about 2050
- ◆ Or may be delayed by as much as 50 years by climate change.
- ◆ Greenhouse gases trap heat in the lower atmosphere, thereby keeping the stratosphere cooler, and so may augment ozone depletion.

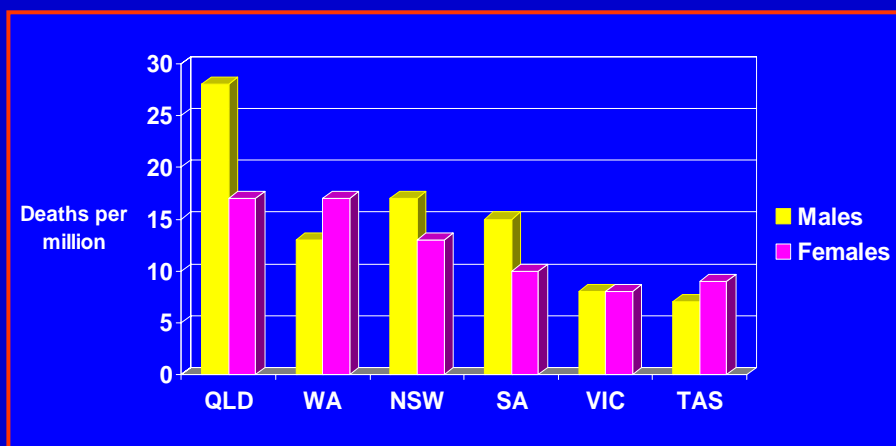
## Melanoma



## Melanoma incidence: Australia and Canada 2000



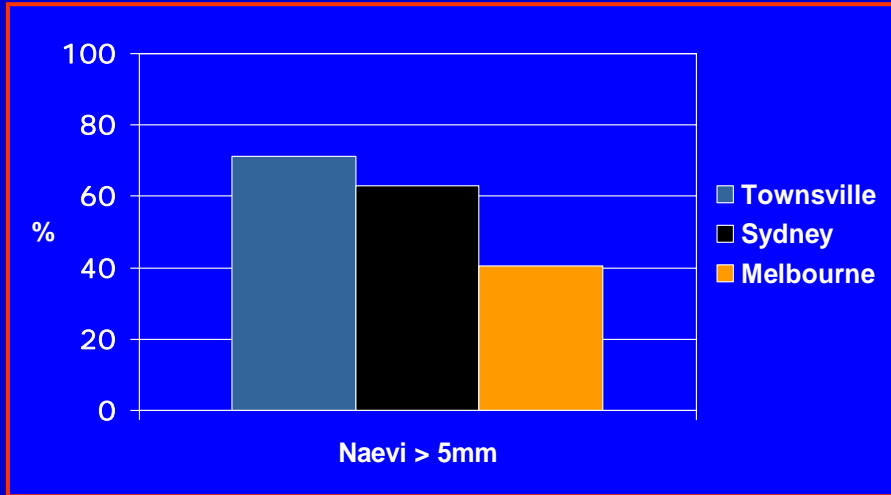
## Melanoma mortality by state



*Lancaster, 1956*

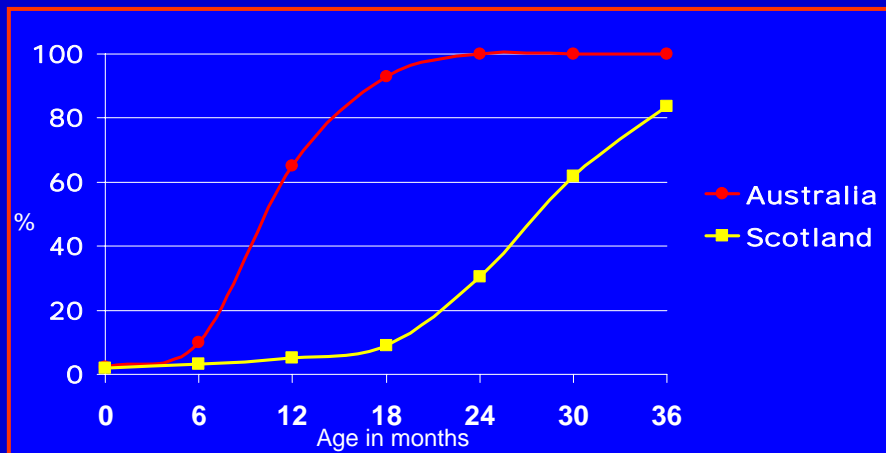


## Proportion of schoolchildren aged 5-15 with large naevi



*Rivers et al., 1995*

## Proportion of children with naevi, birth to 3 yrs



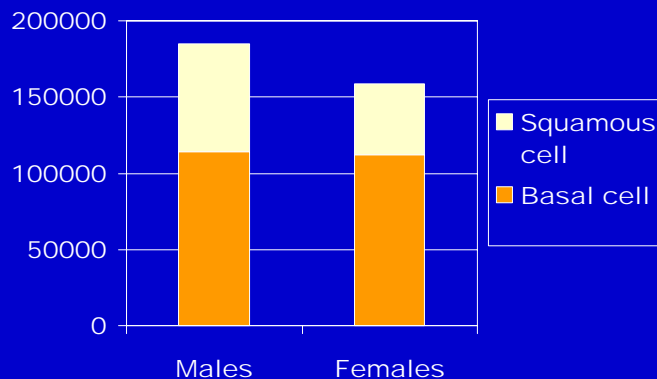
*Harrison et al., JNCI 2000: 92,17*

## Meta-analysis of all melanoma case-control studies, by pattern of sun exposure

	<i>Studies</i>	<i>Odds ratio</i>	<i>95% C.I.</i>
Intermittent	23	1.71	1.54 - 1.90
occupational	20	0.86	0.77 - 0.96
total	11	1.18	1.02 - 1.38

*Elwood & Jopson, Int J Cancer, 73,198, 1997*

**Treated non-melanoma skin cancer, Australia, 2002; numbers, thousands:**  
**total 374,000 (1.9% of popn)**  
**most expensive cancer in health care costs;**  
**cumulative risk by age 65 is over 50%**





**To increase your UV exposure  
by 10%....**

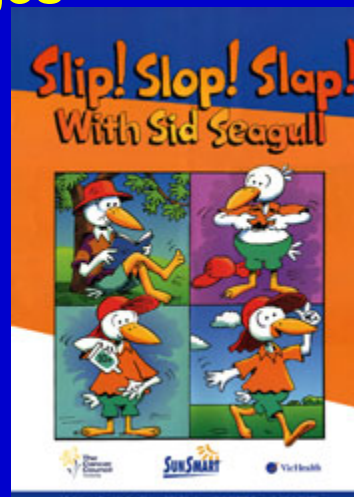
- ◆ Wait 5 years
- ◆ Live 300 km nearer the equator

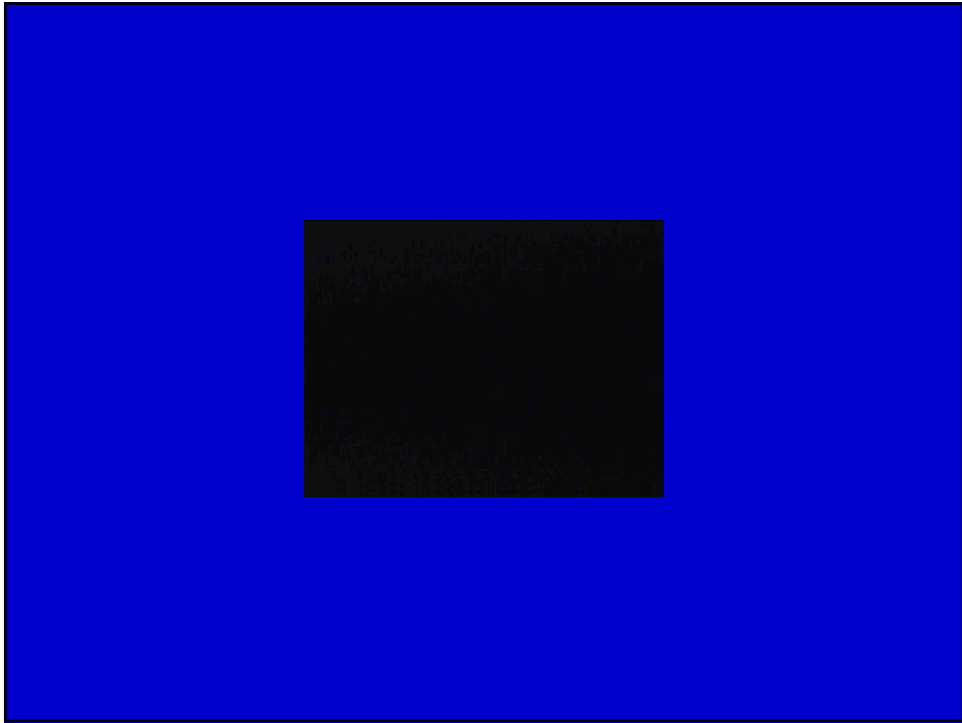
## To increase your UV exposure by 10%....

- ◆ Wait 5 years
- ◆ Live 300 km nearer the equator
- ◆ Go out 1 hour earlier in summer
- ◆ Forget to wear a hat

## Messages

- ◆ 1981:
- ◆ Friendly persuasion





**KIDS COOK QUICK**

SLIP! SLOP! SLAP

AD145 

The image shows a young boy sitting on a sandy beach, playing with a bucket and shovel. The text "SLIP! SLOP! SLAP" is written in red on the sand. The background is a blue ocean. The entire image is framed by a blue border.

## Messages

- ◆ 2000:
- ◆ Harder messages





- ◆ **Structural and program approaches**  
**in schools, workplaces, public areas,**  
**sports and recreation contexts**

# SunSmart Schools

## ***A SunSmart School must have:***

- an approved sun protection policy
- no hat, play in the shade practice
- sun protection taught at every level
- sufficient shade in the school



**2001: 73% primary schools accredited; growing 12% pa**

## **Encouraging shade initiatives by local government**

- ◆ The Shade Awards recognise achievements and innovation in policy and shade provision by local government in Victoria.







## Testing and labelling clothing - Ultraviolet protection factor

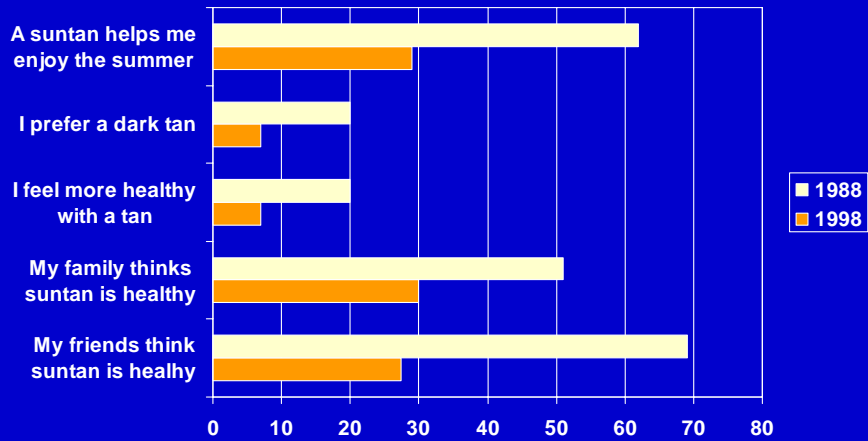
- ◆ A material's UPF rating is based on the percentage of UV radiation transmitted through the material.



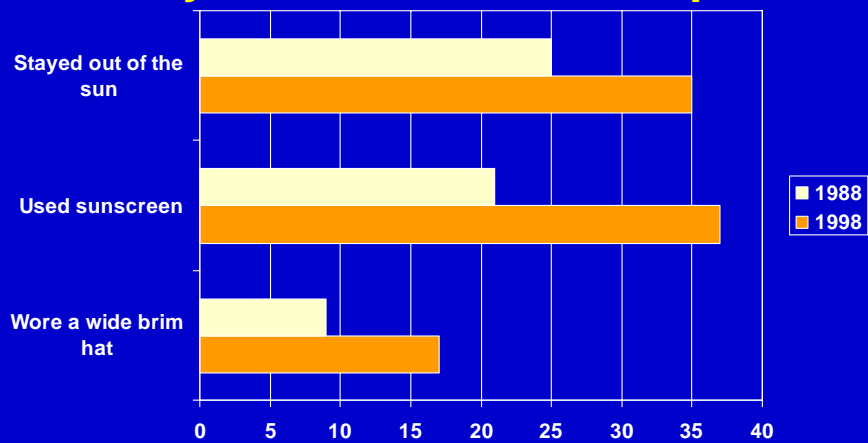
## Has it worked?

- ◆ Has behaviour changed?

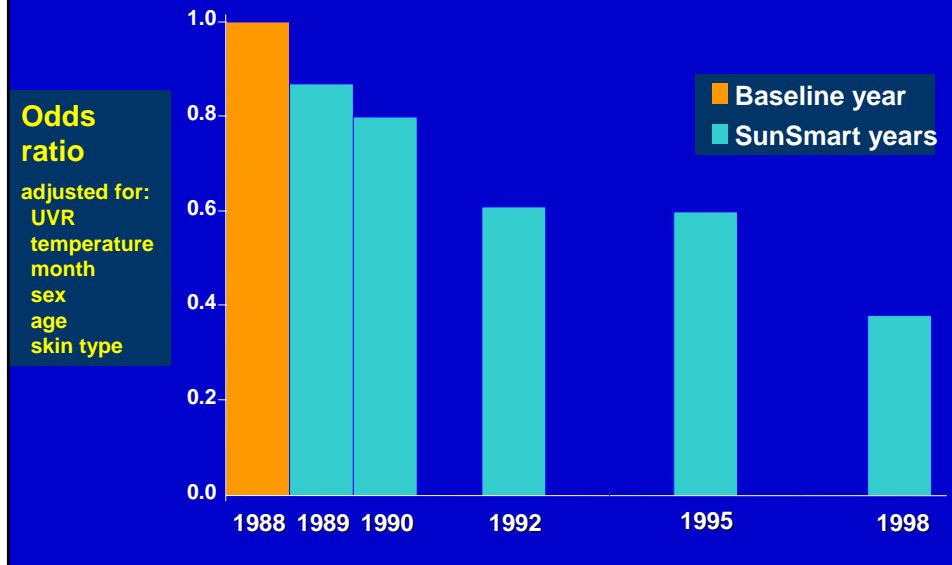
## Changes in attitudes: 1988 to 1998



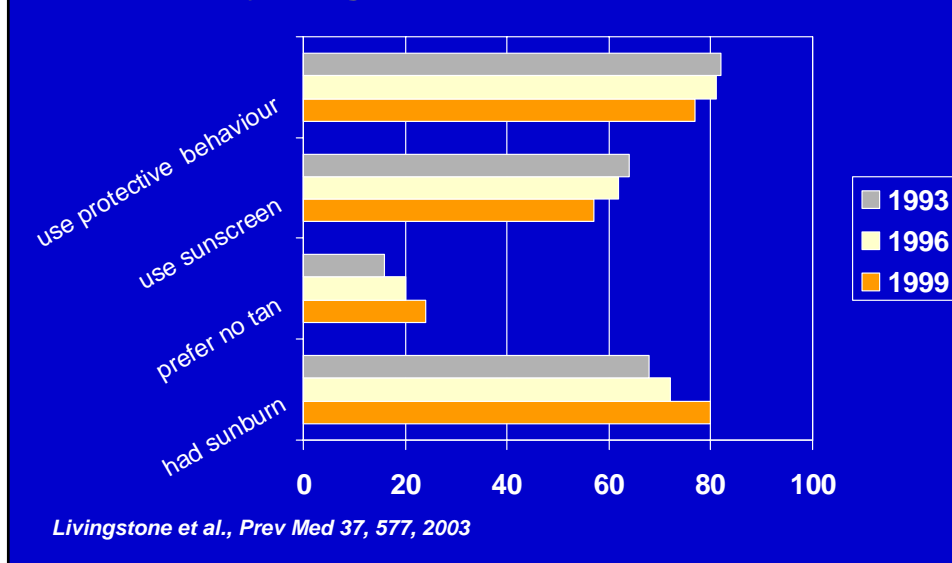
## Changes in behaviours: 1988 to 1998: on a summer Sunday between 11am and 3pm



## Decline in summer weekend sunburn - Victoria



## Problems with teenagers: national surveys, ages 12-17; n=22000 to 30,000



## Recent changes in approaches

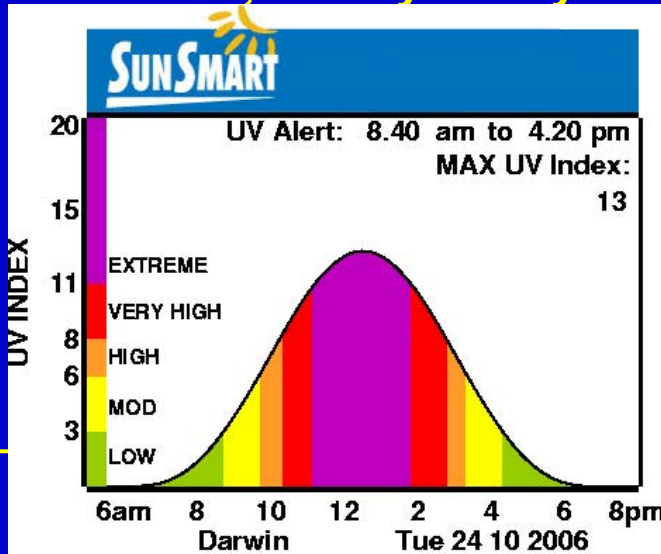
- ◆ Balancing risks and benefits
- ◆ Joint work by Cancer Councils, dermatologists, nutritionists, bone and joint experts

## Current messages

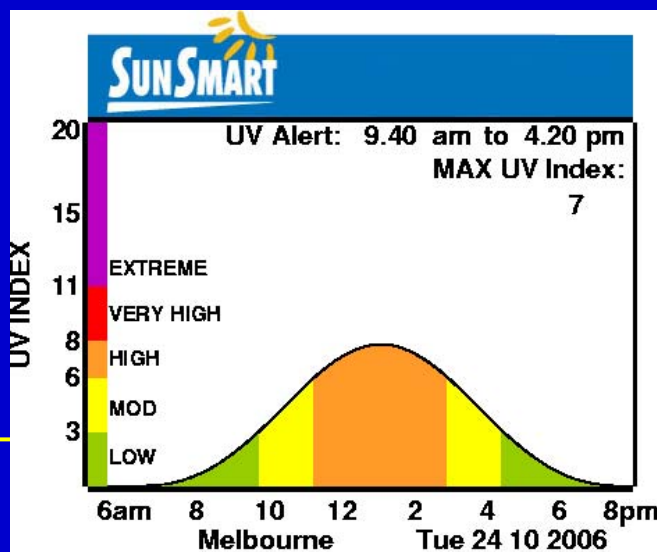
Everyone should use a combination of five sun protection measures whenever the UV Index reaches 3 and above:

- ◆ 1. **Slip** on sun-protective clothing - that covers as much skin as possible
- ◆ 2. **Slop** on SPF30+ sunscreen - make sure it is broad spectrum and water resistant. Put it on 20 minutes before you go outdoors and every two hours afterwards. Sunscreen should never be used to extend the time you spend in the sun.
- ◆ 3. **Slap** on a hat - that protects your face, head, neck and ears
- ◆ 4. **Seek shade**
- ◆ 5. **Slide** on some sunglasses - make sure they meet Australian Standards.

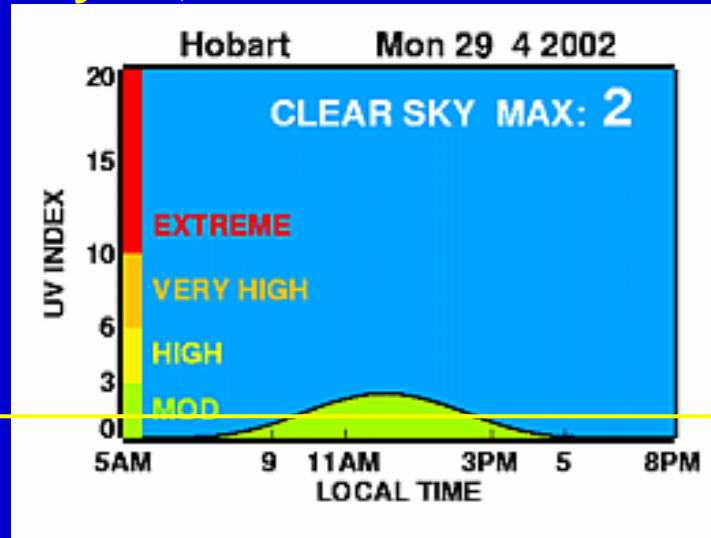
**Forecast UV Index – Darwin 24 Oct 2006: 33° Fine, mostly sunny**



**Forecast UV Index – Melbourne 24 Oct 2006. 29° Fine; late southerly change.**



## Forecast UV Index – Hobart May 29, 2002



### Current messages

Everyone should use a combination of five sun protection measures whenever the UV Index reaches 3 and above:

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- ◆ 4. **Seek shade**
- ◆ 5. **Slide** on some sunglasses - make sure they meet Australian Standards.

## The first of May means 'hats off day'!

- ◆ 1 May 2006
- ◆ 'We recommend that sun protection practices such as hat wearing and sunscreen use is generally not necessary from now until September as the likelihood of increasing our risk of skin cancer is very low in most cases'
- ◆ 'People can maintain their vitamin D levels by getting approximately 2–3 hours of sunlight exposure to the face, arms and hands or equivalent surface area each week, during the winter months of May to August.'

## Take the SunSmart challenge - a whole summer holiday without a sunburn!





## **Responses**

- ◆ **Support of workers and employers to help sun protection**
- ◆ **Publicity campaigns to encourage supply and use of protection**

## **Outdoor Workers Federal Tax Case**

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- ◆ **Involved 10 professions including a builder, teacher and a Tax Auditor**
- ◆ **Funded by the Tax Department**
- ◆ **Decision is that outdoor workers will now have the right to claim sun protective items as a tax deduction.**
- ◆ **Represents an important step for sustaining positive health outcomes for workers**

## Regulation



**“Skin Cancer is more common in sun deprived areas of the world and decreases dramatically as one lives closer to the equator”**

**Body Bronze**  
Suntanning  
Salons

Don't be bide  
this winter

**1/2 price  
winter sale**

**10 sessions for \$70\***



Body Bronze Elwood  
80 Ormond Rd  
Phone: 9537 7077

australia's no.1  
tanning specialist,  
come and see why!

totally committed to your tan  
\*Conditions apply. Valid June



## Australian Competition and Consumer Commission letter to all solariums in Australia

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- ◆ “The Commission considers that claims of *health benefits* from tanning, solarium use or sunlight exposure cannot be supported given the current state of medical evidence and in the context of Australian conditions. Such claims put you at risk of Trade Practices Act breaches and enforcement action by the Commission”.

## Australian Competition and Consumer Commission : Duty to warn of risks of solarium use

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- “The Commission also considers that solarium distributors and operators who fail to warn customers of the health risks are in danger of breaching the *Trade Practices Act*.
- “Silence can be misleading if it is reasonable to expect that certain information would be disclosed.”

## Has it worked?

- ◆ Have skin cancer rates been affected?

## Recent trends in skin cancer

- ◆ Melanoma: mortality falling, incidence stable or falling, in <50 yrs
- ◆ Basal cell cancer: incidence stable <50 yrs
- ◆ Both still increasing at ages >50
- ◆ Birth cohort effects

## Summary

- ◆ Extensive efforts to reduce excess sun exposure
- ◆ Evidence for substantial attitude and behavioural changes
- ◆ Evidence for reductions in sunburn
- ◆ Limited evidence for reductions in skin cancer rates in younger adults
- ◆ Birth cohort related behavioural changes should impact on older age groups in the future

**Merci!!**

**[melwood@bccrc.ca](mailto:melwood@bccrc.ca)**



