

The Number and Usage of Sunbeds in Iceland 1988 and 2005

NSFS 2008 Álesund
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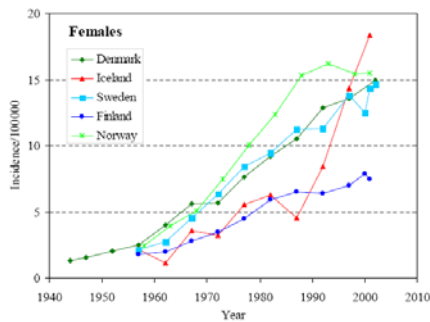


Overview

- Why is historic sunbed usage in Iceland of interest?
- There were 1.5 sunbed per 1000 inhabitants in Reykjavik 1988. Is that a large number?
- Comparing with Gothenburg 2001
- Comparing with Iceland 2005
- Comparing with user-surveys 2004 - 2007
- Conclusions



Melanoma Incidence in Nordic Countries Women



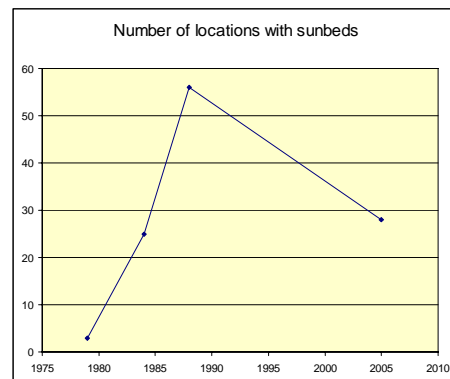
Level of Natural UVR is low

- Max UV-index = 4 in Reykjavik (little solar UV-radiation)
- 1268 sunhours per year in Reykjavik in 1961-1990 or 3.5 hours average per day (frequent cloud cover)



Increased UVR exposure during the 1980s

- Modern sunbeds were introduced in the 1980s
- Number of travels per capita almost doubled in the 1980s from 30% to 60% per year



Number of sunbeds in Reykjavik in 1988

- In 1988 the number of sunbeds in Reykjavik and neighborhood was **1.52** per 1000 inhabitants, with a majority of these sunbeds in tanning saloons.

Number of sunbeds	% of beds in tanning saloons	Population 1st Dec 1988	Number of sunbeds per 1000
207	60.9%	136,431	1.52

Comparing with Gothenburg 2001 1 of 2

- In Gothenburg 2001 the number of tanning sessions per person per year was estimated.

	% of beds in tanning saloons	Beds per 1000	Estimated no of sessions per person per year
Reykjavik 1988	61%	1.52	-
Gothenburg 2001	33%	0.64	1.0

Comparing with Gothenburg 2001 2 of 2

- In Gothenburg 2001, sunbeds in tanning saloons were found to deliver twice as many tanning sessions as sunbeds in places like gyms and swimming halls. Assuming that sunbeds in Reykjavik in 1988 were equally efficient, the estimated number of tanning sessions becomes **2.8** per person per year.

Comparing with Iceland 2005 1 of 2

- In 2005 there were 277 sunbeds in all of Iceland.

	Reykjavik 1988	Gothenburg 2001	Iceland 2005
Sunbeds per 1000 inhab.	1.52	0.64	0.93
% in tanning saloons	61%	33%	63%
Average tanning session	23.3 min	22.0 min	17-20 min

Comparing with Iceland 2005 2 of 2

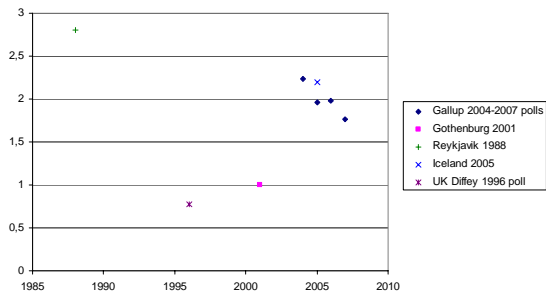
- In 2005, sunbeds were allowed more UVB and tanning sessions were shorter on average. This partly compensates for the large decrease in number of sunbeds. The estimated number of tanning sessions is thus reduced from **2.8** in Reykjavik 1988 to **2.0-2.4** per person per year in Iceland 2005.

Comparing with user-surveys 2004-2007

- Yearly Gallup telephone user-surveys, each with 1350 randomly selected participants 16-75 year old, found each sunbed user visiting sunbeds on average 10.6 times per year. The percentage that used sunbeds was falling.

Year	2004	2005	2006	2007
Used sunbed- 16-74 year	30%	26%	26%	23%
Used sunbed – all ages	21%	18.5%	18.5%	16.5%
Visits per year per person	2.2	2.0	2.0	1.8

Visits per person per year - all ages



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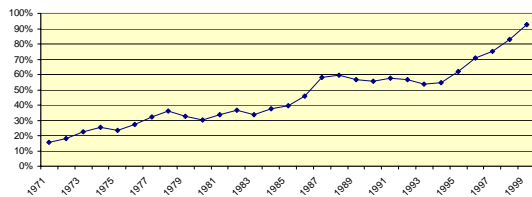
Reykjavik vs. rest of country

- In 1988 only the number of sunbeds in Reykjavik and neighborhood is known. However, less than half the population lives outside this area and most live in villages.
- In 2005 there were more sunbeds on the countryside than in Reykjavik but most were not in tanning saloons.
- The Gallup polls 2004-2007 gave similar percentage of sunbed users in Reykjavik and on the countryside.

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Increase in travel abroad

Arrivals by Icelanders from abroad as percentage of total population



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Icelandic Tourist Patterns in 1996

- 6.8 days per person (overnight stays abroad)
- Half of these days (48.6%) were spent in only three countries; Spain, Denmark and the USA
- 1.6 days per person were spent in Spain in 1996

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Conclusions

- It cannot be ruled out that sunbathing in sunbeds has significantly contributed to the sharp increase in the melanoma rate in Iceland, starting in the 1980s. This is because ...
- a) ... sunbed usage was at least as widespread as in other Nordic countries, possibly much more widespread.
- b) ... UVR-doses received abroad seem not to have been of a magnitude greater than those received in sunbeds.

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