**SCENIHR Preliminary Opinion**
**Review of Sections:**

| | |
|---|---|
| 6.1 | Prevalence of sunbed use |
| 7.3.1.1 | Risks from sunbed usage |
| | Wehner et al 2012 |
| | Wehner et al 2014 |

**Joseph Levy**
**Scientific Advisor**

"It has been suggested that the antithesis of science is not art but politics. Melanoma is perhaps an example of the two having become mistakenly intertwined.
An amicable separation is required."

**Dr. Jonathan L. Rees,**
**Professor of dermatology**
**Newcastle University**
**British Medical Journal**

# Wehner 2012 and Wehner 2014

**PREVALENCE:**

Ever-exposure to sunbeds. Combines results from surveys in Europe, USA and AU

- Adults: 35.7%
- University students: 55.0%
- Adolescents: 19.3%

Alleges: “An increase in sunbed exposure over time”

**RISK:**

Attempts to use crude math: Prevalence x Relative Risk

- BCC: 1.29 PPAR
- SCC: 1.67 PPAR
- CMM: 1.15 PPAR

Is this meta-analysis capable of making these broad conclusions about prevalence and risk?

**Critical Review of Wehner et al. 2014 Estimates of the Prevalence of Ever Exposure to Indoor Tanning in Adults and the Number of Excess Cases of Skin Cancer**

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# No.

**Dr. Diana Petitti, MD, MPH**
**Arizona State University**
**Former Vice Chair,**
**U.S. Preventative Services Task Force**

# Dr. Petitti's Conclusions on Wehner et al

1. "The meta-analytically derived estimate of prevalence of ever-exposure to indoor tanning for adults in Northern and Western Europe is meaningless."

2. "The estimate of the number of skin cancers attributable to indoor tanning in Northern and Western Europe based on this meaningless estimate is meaningless."

# Why “Meaningless”?

1. Variation: The exposure-prevalence data varies widely and most of the data is not current.

1. Non-representative: None of the exposure data can be justified as representative of a population group.

2. Confabulation: “Estimates of the number of melanoma and non-melanoma skin cancers attributable to indoor tanning each year …which are based on a model that uses meaningless prevalence estimates and poor data on non-melanoma skin cancer, are not credible.”

# Why is the Prevalence Data Poor?

1. The numbers aren't real. There is no actual registry for BCC or SCC in Europe or the United States.

2. Huge anomaly. Wehner's data suggest that BCC is 18.4 times more prevalent in the US than in Europe and that that SCC is 30.7 times more prevalent in the US than in Europe.

3. Huge anomaly: Wehner's data suggest that sunbed usage is HIGHER in Europe, but that BCC and SCC incidence rates are 18.4 and 30.7 times LOWER.

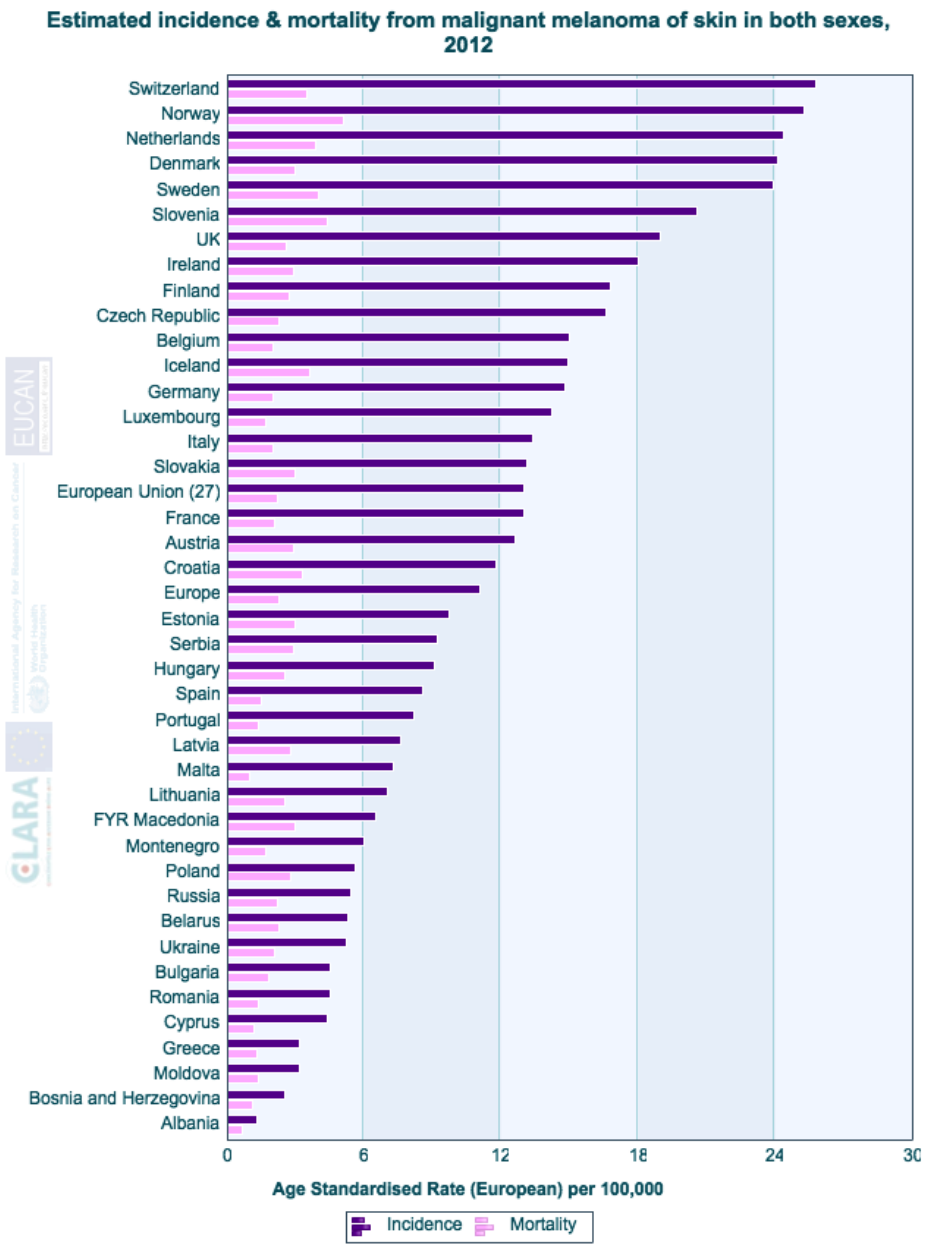
# Why is the Prevalence Data Poor?

4. US CDC: Current usage is much lower* than 35.7%

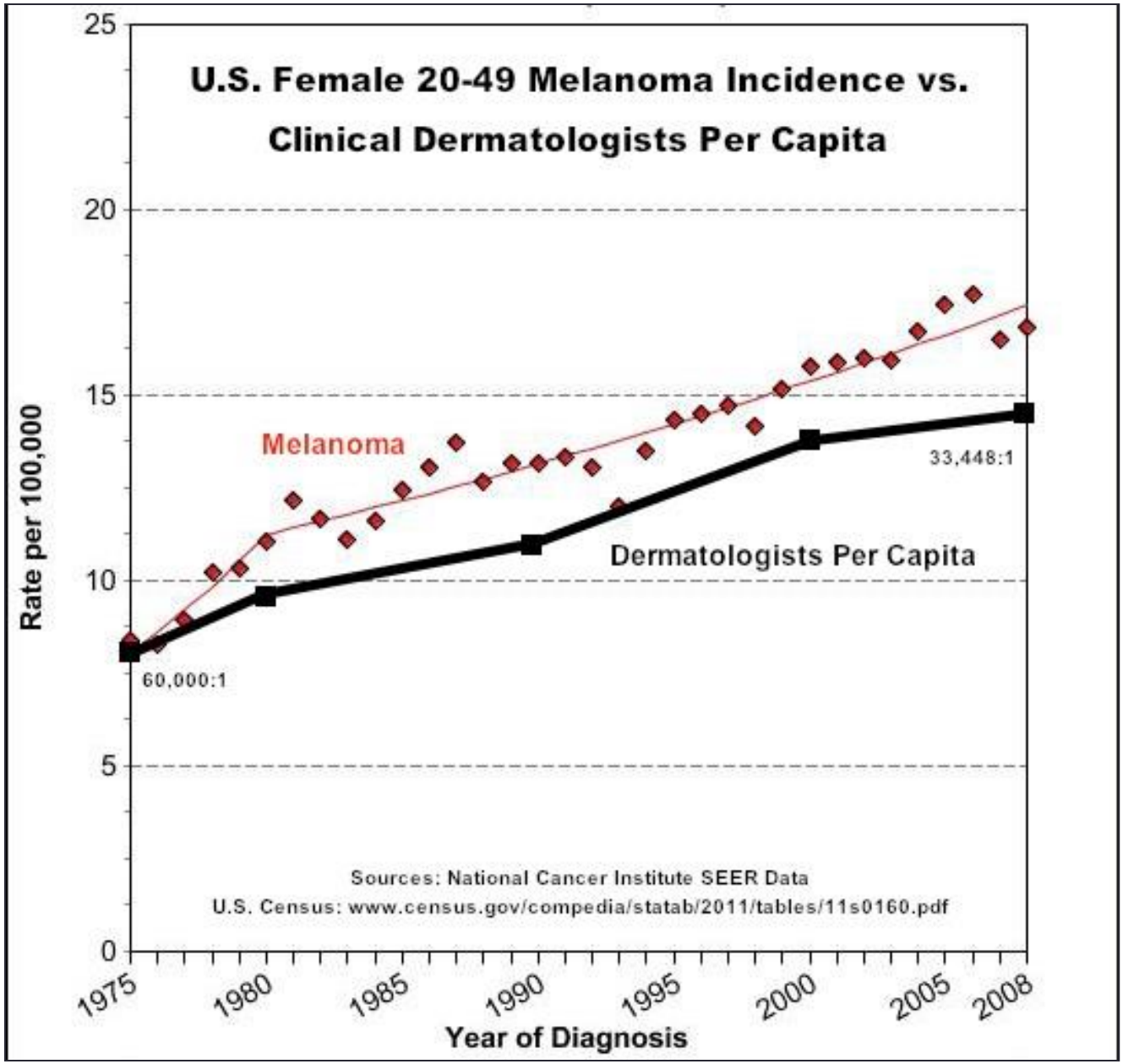
    - Adults 4.2%
    - Adolescents 12.2%

5. Unexplained Variance: Wehner's data do not account for the fact that European melanoma incidence data vary widely from country to country for no explained reason.

* CDC Skin Cancer Prevention Progress Report 2015




# Why is there massive variation from country to country in incidence but not mortality?


U.S. Female 20-49 Melanoma Incidence vs.
Clinical Dermatologists Per Capita
Melanoma
Dermatologists Per Capita
60,000:1
33,448:1
Sources: National Cancer Institute SEER Data
U.S. Census: www.census.gov/compedia/statab/2011/tables/11s0160.pdf
Rate per 100,000
Year of Diagnosis
0
5
10
15
20
25
1975
1980
1985
1990
1995
2000
2005
2008

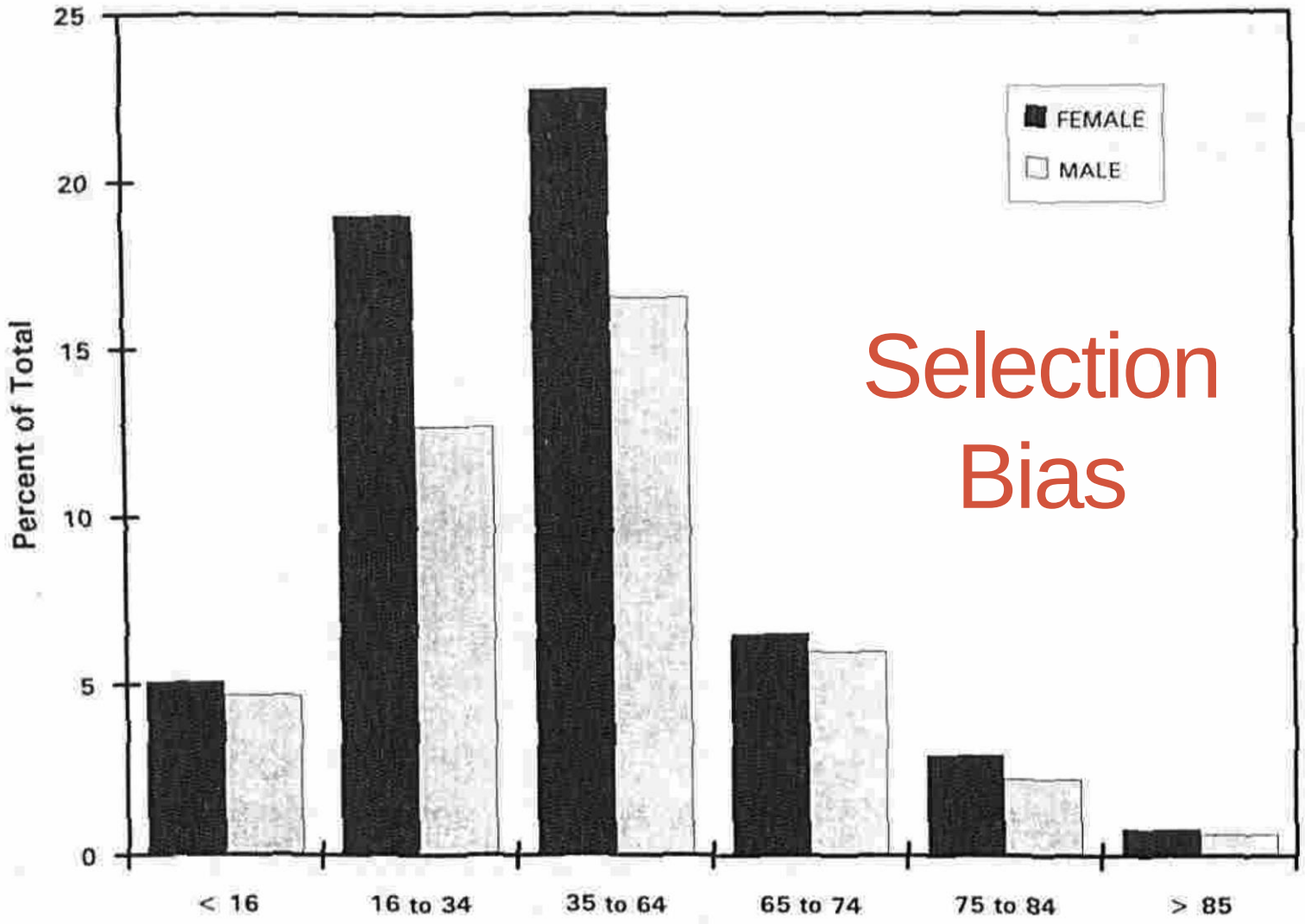
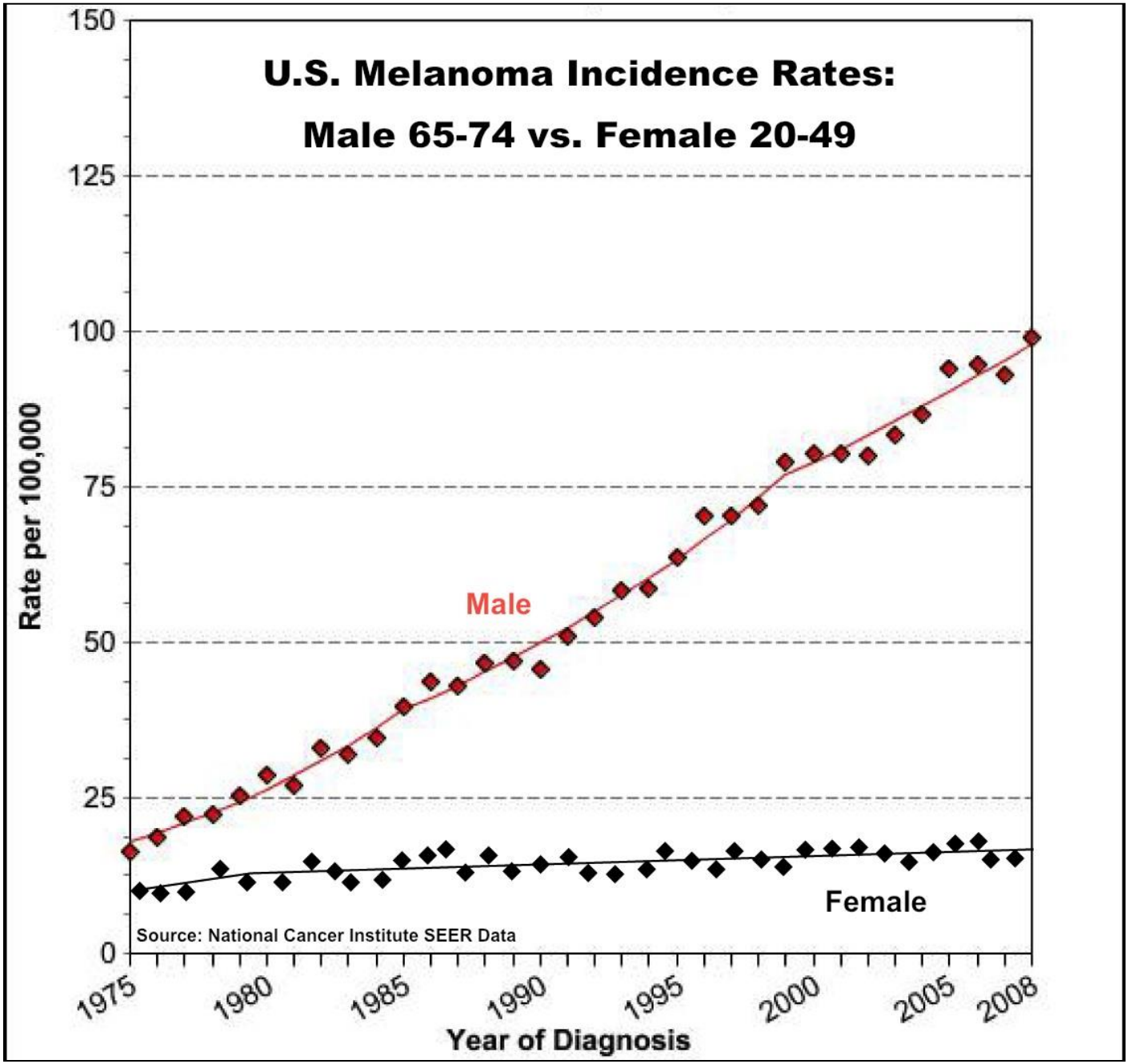
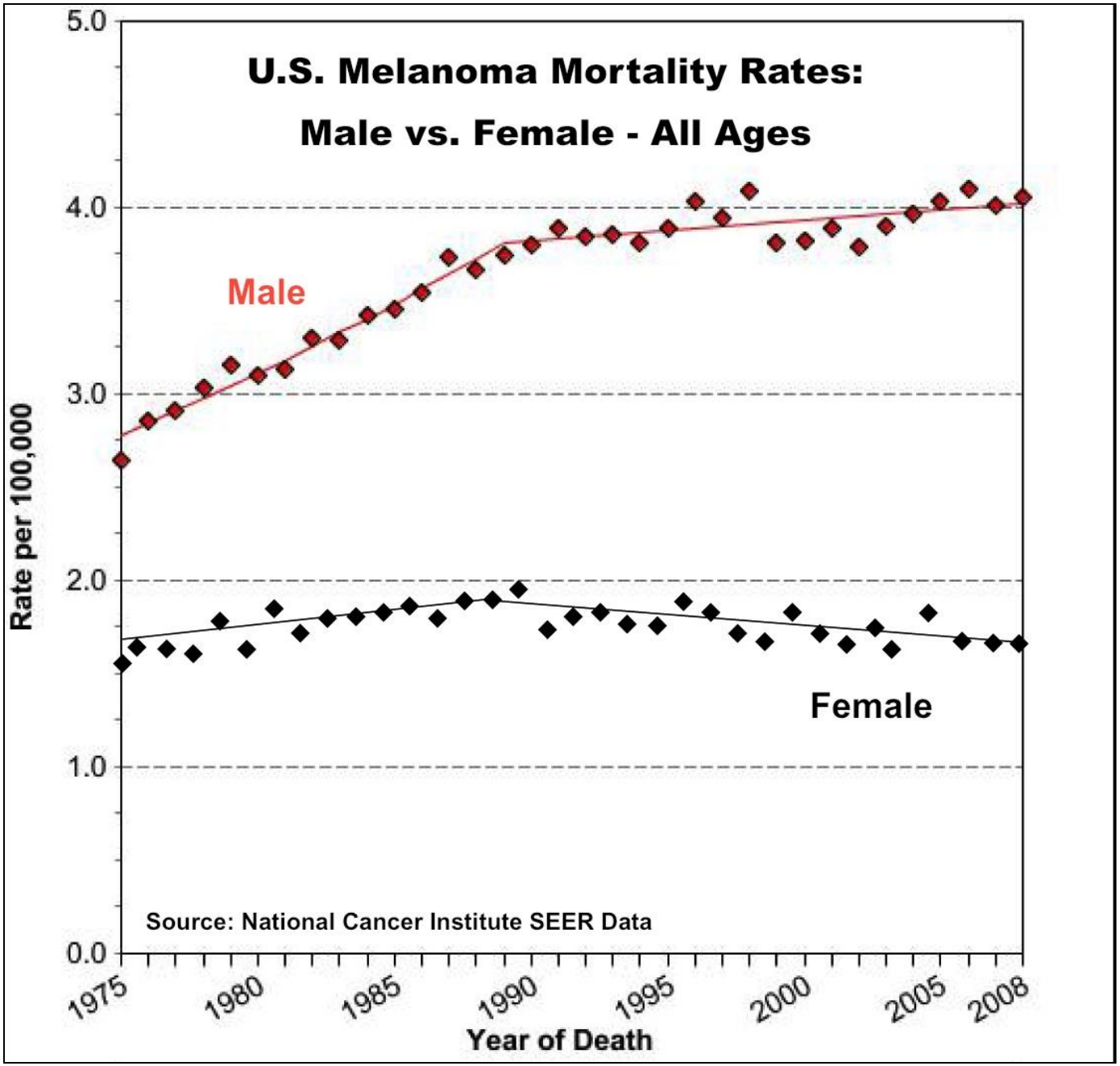



**Figure 1.** Age and sex distribution of patients visiting dermatologists (1990 NAMCS).


U.S. Melanoma Incidence Rates:
Male 65-74 vs. Female 20-49
Rate per 100,000
150
125
100
75
50
25
0
Male
Female
Source: National Cancer Institute SEER Data
1975
1980
1985
1990
1995
2000
2005
2008
Year of Diagnosis


U.S. Melanoma Mortality Rates:
Male vs. Female - All Ages
Male
Female
Rate per 100,000
5.0
4.0
3.0
2.0
1.0
0.0
1975
1980
1985
1990
1995
2000
2005
2008
Year of Death
Source: National Cancer Institute SEER Data

# Conclusions

1. Wehner 2014 is not a reliable predictor of sunbed use prevalence and over-predicts usage.

2. Wehner 2014 is not capable of being a reliable predictor of risks related to sunbed usage.

3. There is no justification for the SCENIHR statement that there is an increase in sunbed usage over time – the opposite is true.

4. Both Wehner 2012 and Wehner 2014 should be removed from SCENIHR's Preliminary Opinion.

American Suntanning Association

# Thank you