

## Supplementary Materials

### 1. Search Strategy

a) Embase entry 1974-present: ((skin cancer or nonmelanoma skin cancer or non-melanoma skin cancer or basal cell carcinoma or squamous cell carcinoma) and (indoor tanning or sunbed\* or tanning bed\* or tanning booth\* or tanning salon\* or solarium\* or solaria or sunlamp\* or artificial tanning or UV tanning or non-solar ultraviolet radiation or non-solar UV radiation or nonsolar ultraviolet radiation or nonsolar UV radiation)).af

b) PubMed entry: ("skin neoplasms"[MeSH Terms] OR skin cancer[Text Word] OR "Carcinoma, Basal Cell"[Mesh] OR "basal cell carcinoma\*" OR "Carcinoma, Squamous Cell"[Mesh] OR "squamous cell carcinoma\*") AND ("indoor tanning" OR "sunbed\*" OR "tanning bed\*" OR "tanning booth\*" OR "tanning salon\*" OR "solarium\*" OR "solaria" OR "sunlamp\*" OR "artificial tanning" OR "UV tanning" OR "non-solar ultraviolet radiation" OR "non-solar UV radiation" OR "nonsolar ultraviolet radiation" OR "nonsolar UV radiation")

c) Web of Science entry: TS= (("skin cancer\*" OR "nonmelanoma skin cancer\*" OR "non-melanoma skin cancer\*" OR "basal cell carcinoma\*" OR "squamous cell carcinoma\*") AND ("indoor tanning" OR "sunbed\*" OR "tanning bed\*" OR "tanning booth\*" OR "tanning salon\*" OR "solarium\*" OR "solaria" or "sunlamp\*" OR "artificial tanning" OR "UV tanning" OR "non-solar ultraviolet radiation" OR "non-solar UV radiation" OR "nonsolar ultraviolet radiation" OR "nonsolar UV radiation"))

## 2. Supplementary Table: Studies excluded from meta-analysis

Reference	Reason for exclusion	Results
Boyd <i>et al.</i> (2002)	Reported mean numbers of indoor tanning visits. No report of number of cases and controls exposed or unexposed, which could have been used to calculate an odds ratio and would have made the data comparable to other data sources for meta-analysis.	Suggests a positive association between BCC and indoor tanning visits (not statistically significant). 152.2 (SD 301.9) mean exposures per BCC case, 83.1 (SD 113.0) mean exposures per control. p=0.351.
Hogan <i>et al.</i> (1991)	Study on head and neck skin cancer after acne treatments did not report data for BCC and SCC separately and included melanoma in summary outcome of 'skin cancer'.	Unadjusted OR sunbed use 1.24 (95% CI 0.95-1.64 p=NS) Unadjusted OR for sunbed use or medical phototherapy 1.33 (1.04-1.77, p=0.024).
Herity <i>et al.</i> (1989)	Did not report data for BCC and SCC separately. Controls were hospitalized solid organ cancer patients, which are unlikely to reflect population from which cases arose.	Non-significant difference in ever artificial UV in cases of NMSC (6.4%) vs Controls (8.3%) p=0.178
O'Louhglin <i>et al.</i> (1985)	Did not report data for BCC and SCC separately. Exposure variable was not described in methods and likely not directly comparable to other studies since results on 'often exposed to artificial sunlight'. Controls were hospitalized solid organ cancer patients, which are unlikely to reflect population from which cases arose.	Non-significant difference in 'often exposed to artificial UV' in cases of NMSC (0.8%) vs Controls (2.5%)

### 3. Supplementary Figure: Population attributable risk calculation

$$\text{PPAR} = \frac{P_e \cdot (RR-1)}{1 + P_e \cdot (RR-1)}$$

RR=relative risk, P<sub>e</sub>=Prevalence of exposure

Prevalence of indoor tanning in US: 13.4% (Heckman et al)

PPAR outcomes:

BCC summary RR=1.29

PPAR for BCC = 3.7%

SCC summary RR= 1.67

PPAR for SCC=8.2%

Number of NMSCs in US: 3,507,693 in 2006 (Rogers et al)

Assume approximately ¾ BCC and ¼ SCC

**Annual number of BCCs attributed to indoor tanning =98,408**

**Annual number of SCCs attributed to indoor tanning =72,244**

**Annual number of NMSCs attributed to indoor tanning=170,652**