October 30, 2014

Office of Science Quality
Centers for Disease Control and Prevention
InfoQuality@cdc.gov

INFORMATION QUALITY APPEAL

We received your September 22, 2014 letter on October 13, 2014. The first class postage stamp on the envelope was dated October 6, 2014.

We respectfully disagree that the scientific studies cited in your letter to us support the objected-to statement on the CDC's website: "*Indoor tanning is particularly dangerous for younger users; people who begin tanning during adolescence or early adulthood have a higher risk of getting melanoma.*"

The CDC has a statement on its website in the sentence immediately following the objected-to italicized sentence above that "Every time you tan you increase your risk of getting skin cancer, including melanoma." We respectfully suggest that this sentence is adequate to describe the risks of cumulative use of indoor tanning devices identified in the scientific studies cited in your letter. The objected-to italicized sentence suggests that younger users are at increased susceptibility to the effects of UV radiation, which is not supported, as discussed below, by the articles that you cite.

Lazovich 2010 expressly stated (emphasis added) that "An elevated risk of melanoma associated with first use at younger ages has been consistently observed across these studies, but this is also the case for indoor tanning used at older agers in some reports reviewed by the IARC (11, 17, 22, 28, 31). Our study was designed to specifically evaluate indoor tanning use initiated at any age. And by simultaneously accounting for duration of use among indoor tanners, **our analysis indicates that early age exposure is most likely a marker for cumulative exposure, the reason for an excess risk of melanoma, not that younger individuals are at increased susceptibility to the effects of UV radiation**. Although no other study has analyzed these data in the same manner as we did, **three reports provide further support for our observation**. One recent report found total hours of sunbed exposure to be much higher (34 hours versus 9 hours) among persons that first tanned indoors before compared with after age 15 years (32) [Bataille 2005]. And in two studies that stratified frequency of indoor tanning use by age of cases, elevated risks for melanoma were observed for those with 10 or more sessions, regardless of age (22) [Westerdahl 1994], or for those with regular use up to the age of 60 (28) [Westerdahl 2000]."

Veierod 2010 found that there was no statistically significantly greater relative risk of melanoma associated with earlier age vs. later age at first use of solaria.

Newton-Bishop 2011 stated that "OR for melanoma, associated with at least one sunburn, at or over the age of 20 years was 1.56 (95% CI 1.23-1.99) and under the age of 20 years OR 1.24 (CI 0.96-1.59)", indicating that adolescents are not more susceptible than adults to an increased risk of melanoma arising from sunburn.

855-879-7678 • AmericanSuntanning.org
PO Box 1907, Jackson, MI 49204

Cust 2011reported on 604 melanoma patients in Australia who were diagnosed with melanoma at ages 18 to 39 ("early-onset melanoma"). The Abstract of this study stated that "The association was stronger for earlier age at first use", but a careful reading of the study reveals that the number of sunbed sessions, not age at first use, was the major determinant of increased risk. Table 1 of Cust suggests that the relative risk of early-onset melanoma is RR = 1.64 when first use of a sunbed occurs before age 25, but Table 2 shows that if one accounts for the number of sunbed sessions, the relative risk is reduced to RR = 1.18, with a lower 95% confidence limit of 0.62, indicating an estimate of relative risk that does not differ statistically significantly from 1.0, the no-effect value of relative risk. Table 2 also shows that the RR for first use before age 20 (RR = 1.39) is also not statistically significant, the lower 95% confidence limit being 0.59. Adjusted for the number of sessions, moreover, there is also no statistically significant trend of increasing risk with earlier age at first use: P (trend) = 0.48. Thus, the study by Cust like that of Newton-Bishop supports the Lazovich finding that early-age exposure is a marker for cumulative exposure, not that younger individuals are at increased susceptibility to the effects of UV radiation.

Ferrucci 2012 and Karagas 2014 are not relevant to the objected-to italicized sentence because they do not address melanoma.

Putting aside the well-known problems of meta-analysis based on observational studies (e.g., Shapiro 1997, Egger et al. 1998), our August 15, 2014 filing noted thatthree meta-analyses attempt to address the question whether indoor tanning by younger persons intrinsically places them at high risk of melanoma. IARC 2006 stated that first exposure to sunbeds before age 35 was associated with an RR = 1.75; 95% CI, 1.35-2.26. This meta-analysis was superseded by Boniol 2012 which stated that first exposure to sunbeds before age 35 was associated with an RR = 1.59; 95% CI, 1.36-1.85. Boniol 2012 was superseded by Colantinio 2014, which stated that first exposure to sunbeds before age 25 was associated with an OR = 1.35; 95% CI, 0.99-1.84, i.e., there was no statistically significant increased risk of melanoma associated with first exposure to sunbeds before age 25. Colantonio's sensitivity analysis reduced the OR even further to 1.21; 95% CI, 0.91-1.61.

In addition to being without scientific basis, the objected-to italicized statement may carry with it a public health risk of its own. Telling younger persons that they are particularly at risk of melanoma from use of indoor tanning salons may cause them to seek UV exposure in the sun where they may be more likely to get UV burns. UV burns are associated with greater risk of melanoma than non-burning UV exposure. Gandini 2005. Sunburns are a public health problem in the United States, with the CDC stating that "sunburn prevalence remains high, with 50.1% of all adults and 65.6% of whites aged 18–29 years reporting at least one sunburn in the past 12 months." MMWR Weekly Report May 11, 2012 / 61(18);317-322.

<u>The specific recommendation for correcting the information</u>

In view of its lack of scientific foundation, we recommend that the sentence *"Indoor tanning is particularly dangerous for younger users; people who begin tanning during adolescence or early adulthood have a higher risk of getting melanoma."* be deleted from the CDC's website.

<u>Description of how the person submitting this complaint is affected by the information error</u>

The American Suntanning Association represents the owners of approximately 1,000 indoor tanning salons in 31 states of the U.S. The information error harms the business of indoor tanning salons by inducing younger persons not to use indoor tanning salons.

The name, mailing address, telephone number and e-mail address of the person making this complaint

The person making this complaint is the American Suntanning Association, which is a trade association of indoor tanning salon owners in the United States. The mailing address, telephone number and e-mail address of the American Suntanning Association is:

American Suntanning Association
Attn: Barton D. Bonn, President
PO Box 1907
Jackson, MI 49204
Telephone 402-968-6936
E-mail address bonnbart@gmail.com
Copy to: Allen Miller apmillerlaw@aol.com

Respectfully submitted,

American Suntanning Association

By: /s/
Barton D. Bonn, President

References:

Bataille 2005. Bataille V, Boniol M, De Vries E, Severi G, Brandberg Y, Sasieni P, Cuzick J, Eggermont A, Ringborg U, Grivegnee AR, Coebergh JW, Chignol MC, et al. A multicentre epidemiological study on sunbed use and cutaneous melanoma in Europe. Eur J Cancer 2005; 41:2141–9.

Boniol 2012. Boniol M, Autier P, Boyle P, Gandini S. Cutaneous melanoma attributable to sunbed use: systematic review and meta-analysis. BMJ. 2012; 345:e4757.

Boniol 2012 Correction. Boniol M, Autier P, Boyle P, Gandini S. Cutaneous melanoma attributable to sunbed use: systematic review and meta-analysis. BMJ. 2012; 345:e8503.

Colantonio 2014. Colantonio S, Bracken MB, Beecker J. The association of indoor tannng and melanoma in adults: Systematic review and meta-analysis. J Am Acad Dermatol 2014; 5:847-857.

Cust 2011. Cust AE, Armstrong BK, Goumas C, Jenkins MA, Schmid H, Hopper JL, Kefford RF, Giles GG, Aitken JF, Mann GJ. Sunbed use during adolescence and early adulthood is associated with increased risk of early-onset melanoma. Int J Cancer 2011; 128:2425-2435.

Egger 1998. Egger M, Schneider M, Davey Smith G. Spurious precision? Meta-analysis of observational studies. BMJ. 1998 Jan 10;316(7125):140-4.

Ferrucci 2012. Ferrucci LM, Cartmel B, Molinaro AM, Leffell DJ, Bale AE, Mayne ST. Intdoor tanning and risk of early-onset basal cell carcinoma. J Am Acad. Dermatol. Oct 2012;67(4):552-562.

Gandini 2005. Gandini S, Sera F, Cattaruzza MS, Pasquini P, Zanetti R, Masini C, Boyle P, Melchi CF. Meta-analysis of risk factors for cutaneous melanoma: II. Sun Exposure. Meta analysis of risk factors for cutaneous melanoma: II. Sun exposure. Eur J Cancer 2005; 41: 45–60.

IARC 2006. IARC: The International Agency for Research on Cancer Working Group on artificial ultraviolet (UV) light and skin cancer. The association of use of sunbeds with cutaneous malignant melanoma and other skin cancers: A systematic review. Int. J. Cancer 2006; 120:1116–1122.

Karagas 2014. Karagas MR, Zens MS, Li Z, Stuckel TA, Perry AE, Gilbert-Diamond D, Sayarath V, Stephenson RS, Barton D, Nelson HH, Spencer SK. Early-Onset Basal Cell Carcinoma and Indoor Tanning: A Population-Based Study. Pediatrics. Jun 23 2014.

Lazovich 2010. Lazovich D, Vogel RI, Weinstock MA, Anderson KE, Warshaw MA. Indoor Tanning and Risk of Melanoma: A Case-Control Study in a Highly Exposed Population. Cancer Epidemiol Biomarkers Prev 2010; 19(6):1557-1568 at page 1566.

Newton-Bishop 2011. Newton-Bishop JA, Chang YM, Elliott F, Chan M, Leake S, Karpavicius B, Haynes S, Fitzgibbon E, Kukalizch K, Randerson-Moor J, Elder DE, Bishop DT, Barrett J. Relationship between sun exposure and melanoma risk for tumours in different body sites in a large case-control study in a temperate climate. Eur J Cancer 2011;47:732-71at page 735.

Shapiro 1997. Shapiro S. Is meta-analysis a valid approach to the evaluation of small effects in observational studies? Journal of Clinical Epidemiology 1997 Mar;50(3):223-29.

Veierod 2010. Veierod MB, Adami HO, Lund E, Armstrong BK, Weiderpass E. Sun and solarium exposure and melanoma risk; effects of age, pigmentary characteristics, and nevi. Cancer Epidemiol Biomarkers Prev 2010;19:111-20 (Table 5).

Westerdahl 1994. Westerdahl J, Olsson H, Masback A, Ingvar C, Jonsson N, Brandt L, Jonsson PE, Moller T. Use of sunbeds or sunlamps and malignant melanoma in southern Sweden. Am J Epidemiol 1994; 140:691-9.

Westerdahl 2000. Westerdahl J, Ingvar C, Masback A, Jonsson N, Olsson H. Risk of cutaneous malignant melanoma in relation to use of sunbeds: further evidence for UV-A carcinogenicity. Br J Cancer 2000;82:1593–