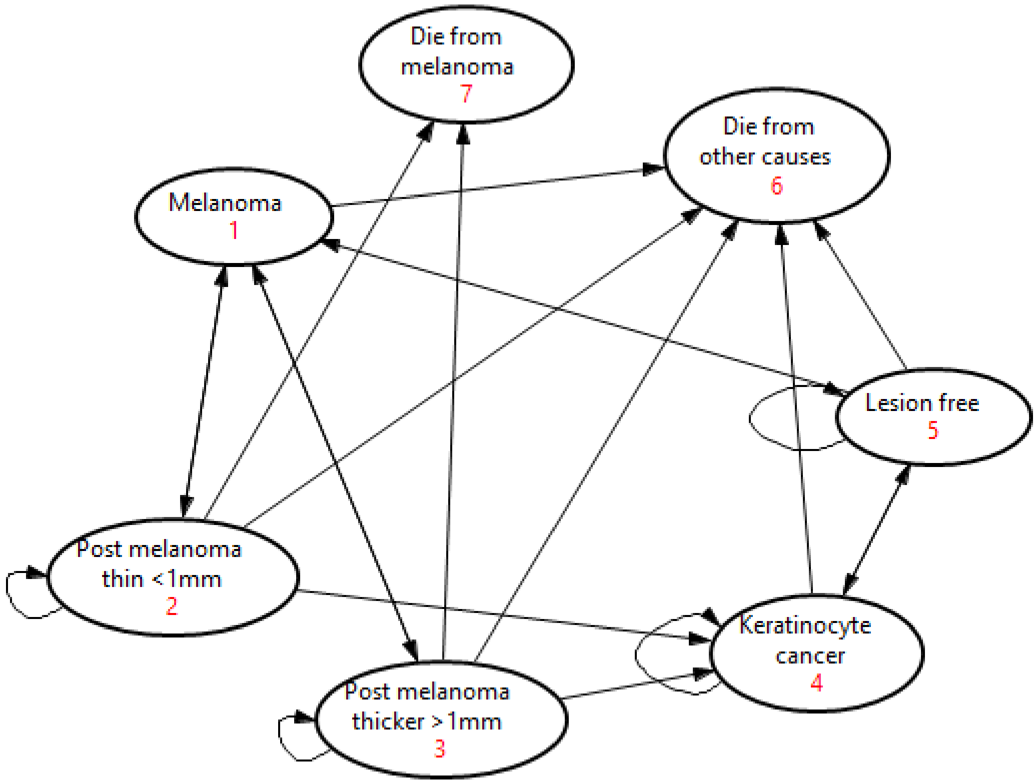
Supplementary Online Content

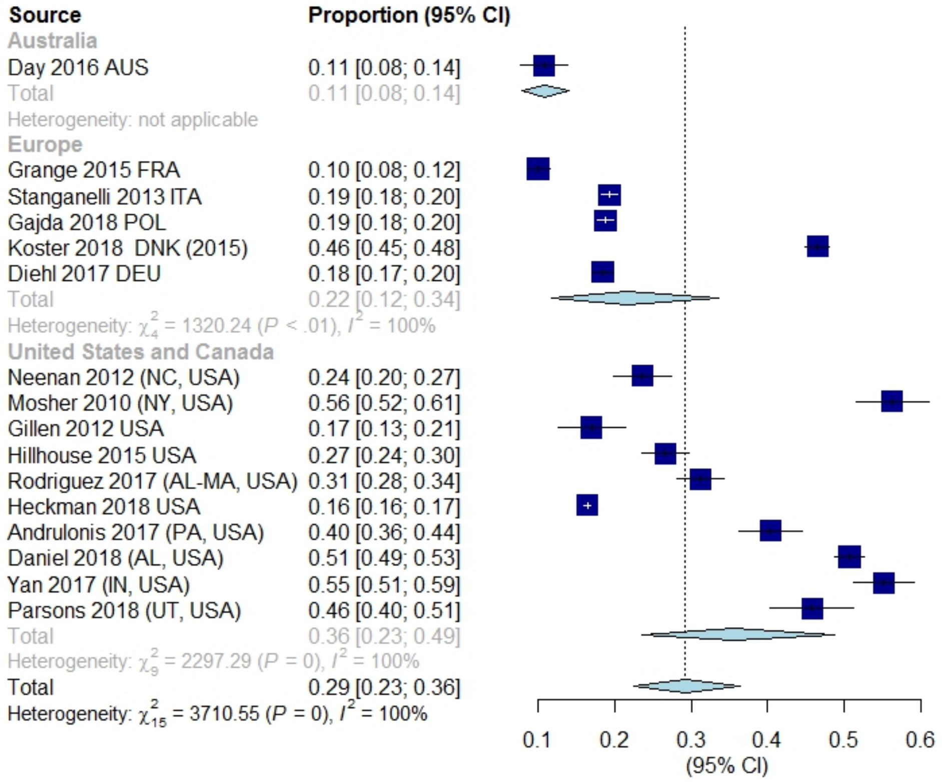
Gordon LG, Rodriguez-Acevedo AJ, Køster B, et al. Association of indoor tanning regulations with health and economic outcomes in North American and Europe. *JAMA Dermatol.* Published online February 19, 2020. doi:10.1001/jamadermatol.2020.0001

This supplementary material has been provided by the authors to give readers additional information about their work.

eFigure S1. Illustration of Markov model health states and possible transitions



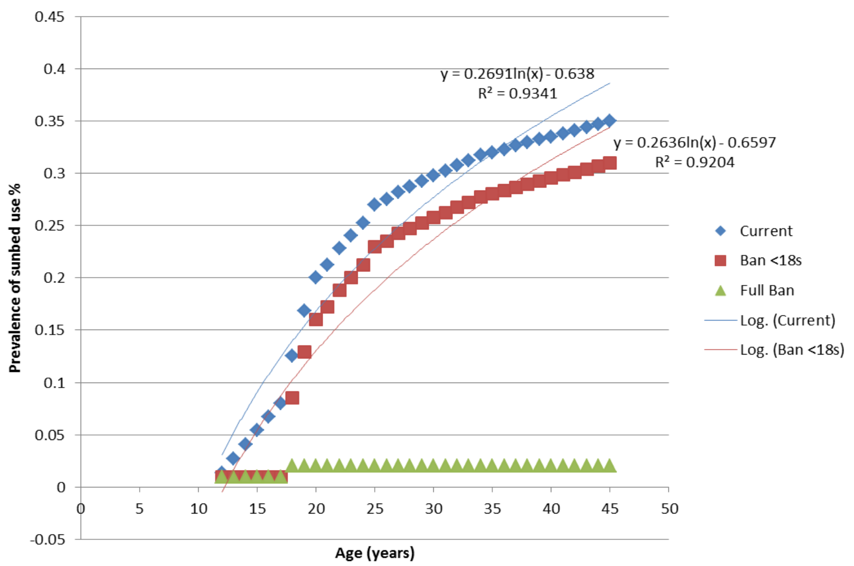
eFigure 2. Pooled estimates of ever exposure to indoor tanning among adults after 2009



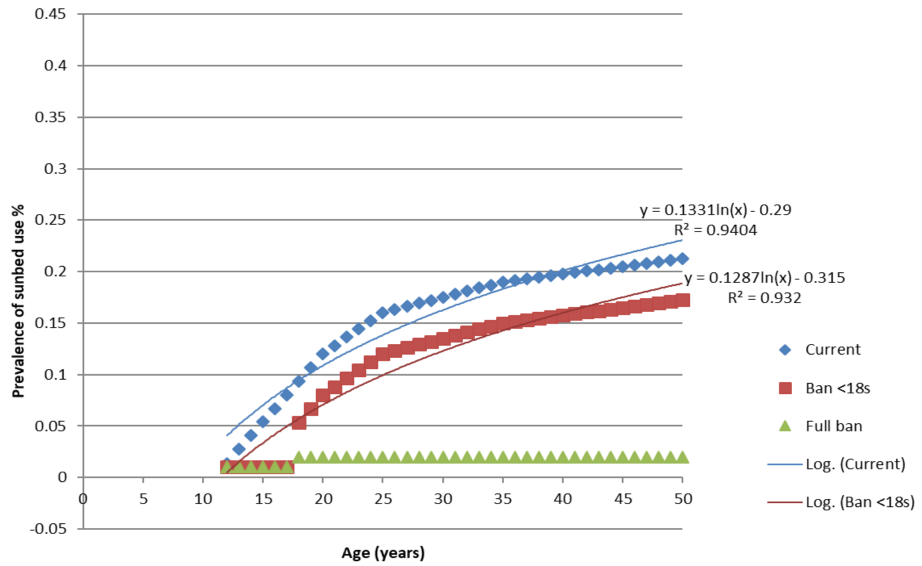
References[3-18]

eFigure 3. Estimated prevalence of indoor tanning by Age

a) North America

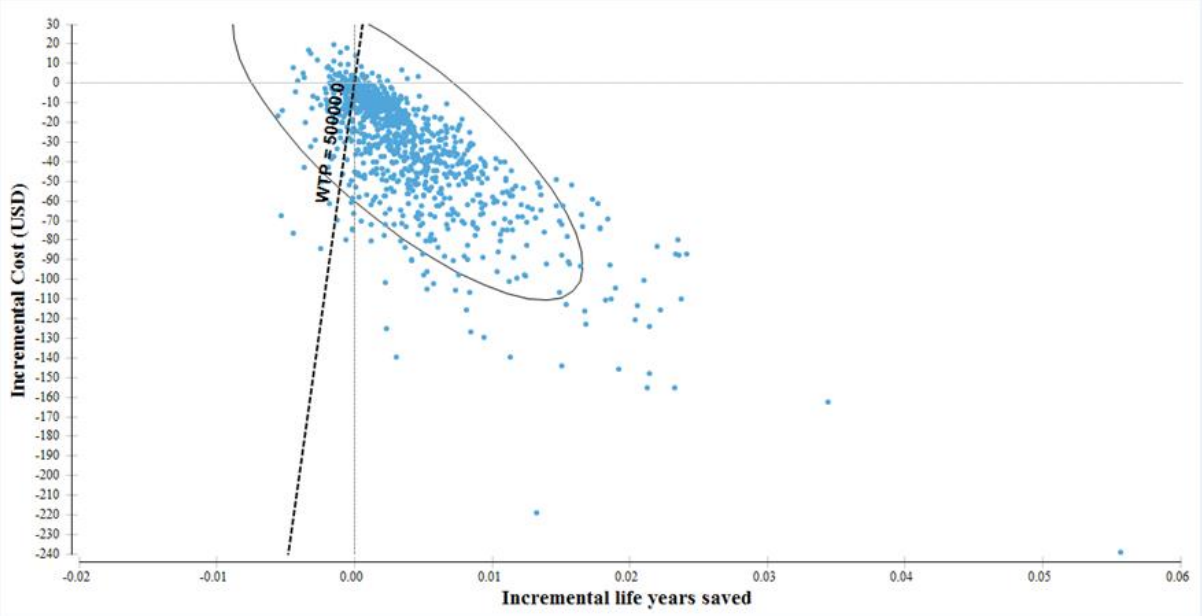


b) Europe



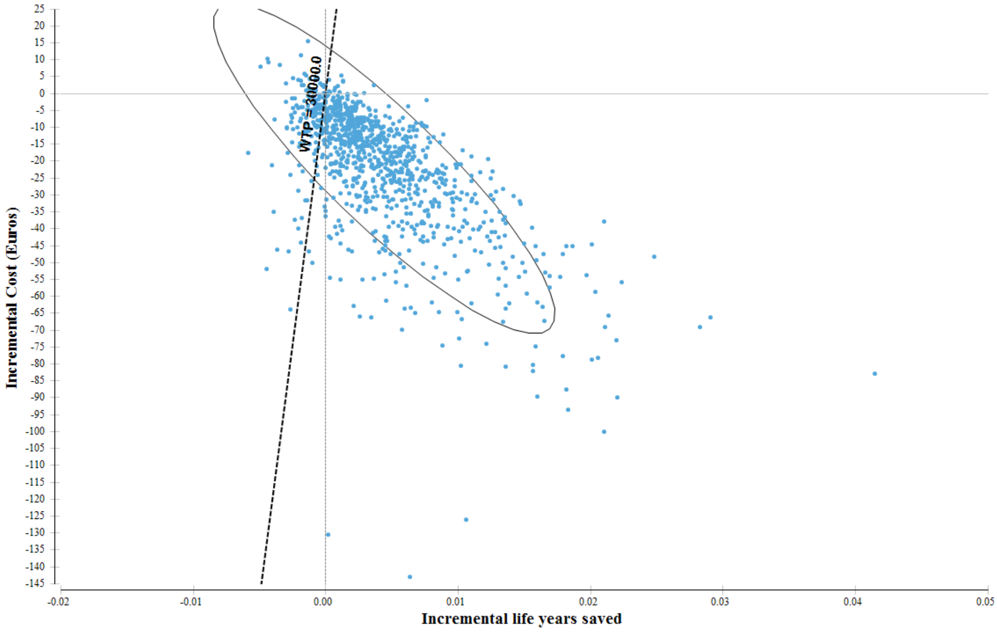
eFigure 4. Incremental cost per life year scatterplot for full ban vs current use in North America

Note: Each dot represents an incremental cost and incremental life year pairing using the assigned distributions around each model parameter, selected randomly during 5000 iterations. Dots falling to the right of the diagonal & vertical lines (the willingness-to-pay threshold of $50,000 per life year saved) are cost-effective. The proportion of simulations cost-effective is 83.4%. The oval is the 95% ellipse and represents the 95% uncertainty ellipsoid.



eFigure 5. Incremental cost per life year scatterplot for full ban vs current use in Europe

Note: Each dot represents an incremental cost and incremental life year pairing using the assigned distributions around each model parameter, selected randomly during 5000 iterations. Dots falling to the right of the diagonal & vertical lines (the willingness-to-pay threshold of €30,000 per life year saved) are cost-effective. The proportion of simulations cost-effective is 83.8%. The oval is the 95% ellipse and represents the 95% uncertainty ellipsoid.



eTable 1. Comparison of pooled estimates on the prevalence of indoor tanning

	2019 Rodriguez-Acevedo[1] meta-analysis[#] (%, 95% CI)	2014 Wehner[2] meta-analysis^ (%, 95% CI)
Adolescents past year exposure		
North America	7.6% (5.1-10.5%)	10% (8-12%)
Europe	5.1% (0.2-15.8%)	36% (21-52%)
Adults ever exposure		
North America	35.6% (23.4-48.7%)	35% (27-44%)
Europe	22% (12-34%)*	42% (29-54%)

#This included the latest results when multiple studies from the same nation were possible (see Supplementary Figure

^ In sensitivity analyses, prevalence for all studies were included (31% 95%CI: 24-41%) which included multiple studies from the same nation.

eTable 2. One-way sensitivity analyses[a] - Full ban vs current sunbed use

	Incremental cost per life year			Probability	Range -high
	Mean	2.5%	97.5%	cost-effective (%)	& low mean ICER
NORTH AMERICA model					
RR melanoma with sb use low 1.36	dominant	dominant	dominant	100.0%	
RR melanoma with sb use high 1.85	dominant	dominant	dominant	100.0%	4546
RR KCs low 1.12	dominant	dominant	5970	86.6%	
RR KCs high 2.76	dominant	dominant	265050	81.8%	-16759
Cost of KCs low 984	dominant	dominant	40209	85.6%	
Cost of KCs high 1477	dominant	dominant	61984	85.6%	-602
Probability of thick melanoma low 0.25	dominant	dominant	53277	85.6%	
Probability of thick melanoma high 0.29	dominant	dominant	51475	85.6%	2311
Cost of thick mel first year low 17059	dominant	dominant	52623	85.6%	
Cost of thick mel first year high 31680	dominant	dominant	52197	85.6%	-684
Prob of mulitple KCs low 10.9%	dominant	dominant	52018	85.6%	
Prob of mulitple KCs high 16.4%	dominant	dominant	54754	85.6%	-326
RR insitu to invasive melanoma 1.1	dominant	dominant	47726	85.7%	
RR insitu to invasive melanoma 1.2	dominant	dominant	43501	85.7%	156
EUROPE model					
RR melanoma with sb use low 1.36	dominant	dominant	dominant	100.0%	
RR melanoma with sb use high 1.85	dominant	dominant	dominant	100.0%	3437
RR KCs low 1.21	dominant	dominant	13086	86.7%	
RR KCs high 2.08	87769	dominant	153026	84.2%	124345
Cost of KCs low 2309	dominant	dominant	37525	85.8%	
Cost of KCs high 3124	dominant	dominant	51589	85.7%	384
Probability of thick melanoma low 0.283	dominant	dominant	44274	85.8%	
Probability of thick melanoma high 0.425	dominant	dominant	63181	85.9%	-26051
Cost of thick mel first year low 10195	dominant	dominant	41322	85.8%	
Cost of thick mel first year high 13793	dominant	dominant	41200	85.8%	-180
Prob of mulitple KCs low 10.9%	dominant	dominant	40519	85.8%	
Prob of mulitple KCs high 16.4%	dominant	dominant	42934	85.8%	-1419

a. Each variable low and high variable was altered one and at time and the Monte Carlo simulations were re-run. The mean incremental cost per life year were calculated and their 2.5 and 97.5 percentiles for a credible interval.

eReferences

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