



<sup>1</sup> Christie Hospital NHS Foundation Trust, Manchester, UK

<sup>2</sup> Population Health Department, QIMR Berghofer, Brisbane, QLD, Australia

<sup>3</sup> Division of Musculoskeletal and Dermatological Sciences, University of Manchester, Manchester, UK

<sup>4</sup> Patient author, Melanoma Patient Conference

<sup>5</sup> Melanoma Focus, Cambridge, UK

<sup>6</sup> Division of Cancer Sciences, University of Manchester, Manchester, UK

Correspondence to: P C Lorigan  
paul.lorigan@nhs.net

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# Commercial sunbeds should be banned in the UK

**Paul Lorigan and colleagues** argue that despite regulation commercial sunbeds remain popular with young people and are adding to the national skin cancer burden

Sophia Kreft,<sup>1</sup> Adele C Green,<sup>2,3</sup> Imogen Cheese,<sup>4</sup> Susanna Daniels,<sup>5</sup> Paul C Lorigan<sup>1,6</sup>

Indoor tanning is experiencing a boom in popularity, particularly among Gen Z (born 1997-2012), with social media promoting sunbeds as integral to wellness. Recent surveys report that 28% of the UK public use sunbeds.<sup>1</sup> Future use may be influenced by the government's cancer plan, a forthcoming review by the Committee on Medical Aspects of Radiation in the Environment (COMARE), and an inquiry into ultraviolet safety by the All-Party Parliamentary Group for Beauty and Wellbeing launched in May 2025 and the inclusion of sunbeds in the Joint Council for Cosmetic Practitioners' considerations of safety of non-surgical aesthetic procedures. However, existing sunbed legislation is clearly ineffective, and there is little evidence that stricter rules would help protect those who are most vulnerable.

In 2009, the International Agency for Research on Cancer confirmed exposure to ultraviolet radiation from sunbeds was carcinogenic to humans, causing melanoma and other skin cancers.<sup>2</sup> The risk of developing these cancers peaks with use when young: use before age 35 increases melanoma risk by 59%.<sup>3</sup> Based on this evidence, and on the 2009 COMARE report,<sup>4</sup> the Sunbed Regulation Act 2010 prohibited use by people under 18 in England and Wales. The COMARE report also recommended regulation of sunbed facilities with mandatory registration, provision of health risk information, informed consent before use, adherence to irradiance limits, and regular inspections to ensure compliance,<sup>4</sup> but these were not enacted.

Since then, melanoma rates have continued to increase in England and are projected to rise further by 2040.<sup>5</sup> Some evidence suggests melanoma incidence has stabilised in 25-49 year olds and fallen in 15-24 year olds in England over the past 7-10 years.<sup>6</sup> However, this may be related to population changes in ethnic composition and possibly increased time spent indoors online, as reported in Australia,<sup>7</sup> and there is no evidence that sunbed use has decreased. A 2024 survey of 2003 people in the UK by Melanoma Focus found that 43% of respondents aged 18-25 used sunbeds, 49% of them at least weekly, with many unaware of the associated dangers.<sup>1</sup>

The ongoing high prevalence of sunbed use among young people, together with evidence that the risks of melanoma and basal cell and squamous cell carcinoma from sunbed use increase with earlier age of first exposure,<sup>3</sup> underscores the likelihood that commercial sunbed use will continue to add to the burden of these cancers.

## Patterns in distribution of tanning facilities

Neither the number nor location of sunbed outlets in the UK are monitored. A web scraping tool extracting data from websites and social media in January 2024 identified 4231 sunbed outlets in England and 232 in Wales.<sup>8</sup> When outlets were mapped to local authorities, density of sunbed facilities per 100 000 population (based on the 2021 census) was highest in the north west and north east of England, while generally lower in southern England (fig 1).

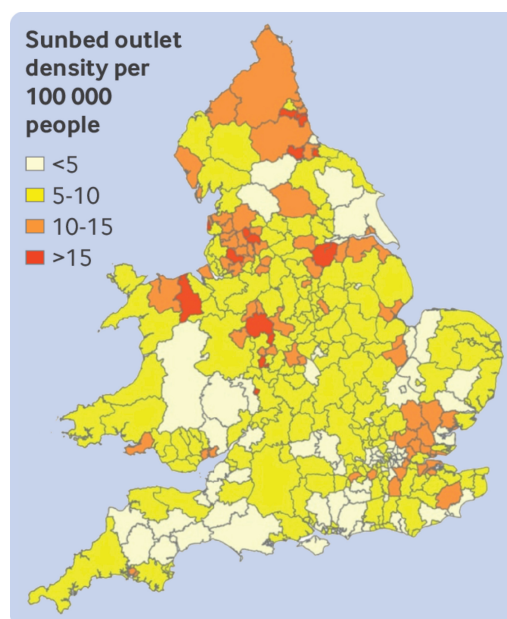


Fig 1 | Sunbed outlets per 100 000 total population by local authority, England and Wales, 2024

Analysis using the Index of Multiple Deprivation, which measures socioeconomic disadvantage across domains of income, employment, education, health, crime, housing, and environment by local authority district,<sup>9</sup> shows the area density of commercial sunbed outlets per 100 000 population increases ( $P < 0.05$ ) with increasing deprivation (fig 2).

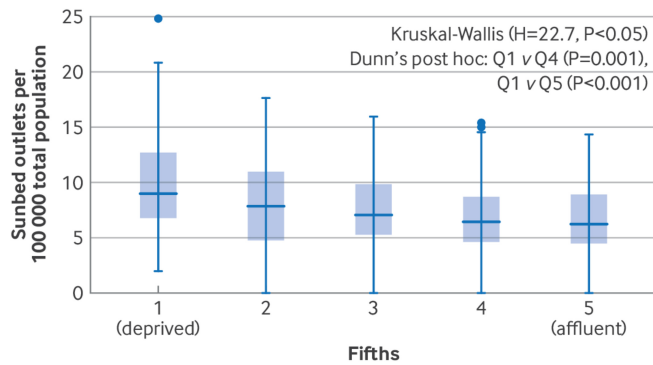


Fig 2 | Sunbed outlets per 100 000 total population by fifths of deprivation at local authority level

The distribution of sunbed density is also similar to that of melanoma incidence in young people, with the highest rates in north England (fig 3).<sup>3</sup> Melanoma is one of the commonest cancers among young adults in the UK. Over 2600 new diagnoses were recorded annually in 25-49 year olds in England during 2018-20 and 146 deaths, with two thirds of cases in women.<sup>6</sup> Notably, regions in the north east and north west with high melanoma rates among 25-49 year olds are significantly correlated ( $P<0.01$ ) with areas of high sunbed outlet density for women ( $\rho=0.38$ ) and men ( $\rho=0.27$ ). However, other contributing factors must also be considered, including ultraviolet exposure from affordable sunny holidays. This reflects ongoing complacency around skin cancer risks in the UK, with low uptake of sun protection and sun safe behaviour. Over a third of those surveyed, and 42% of men, rarely or never use sunscreen in summer, while nearly half report annual sunburn, rising to 65% among 18-32 year olds.<sup>10</sup>

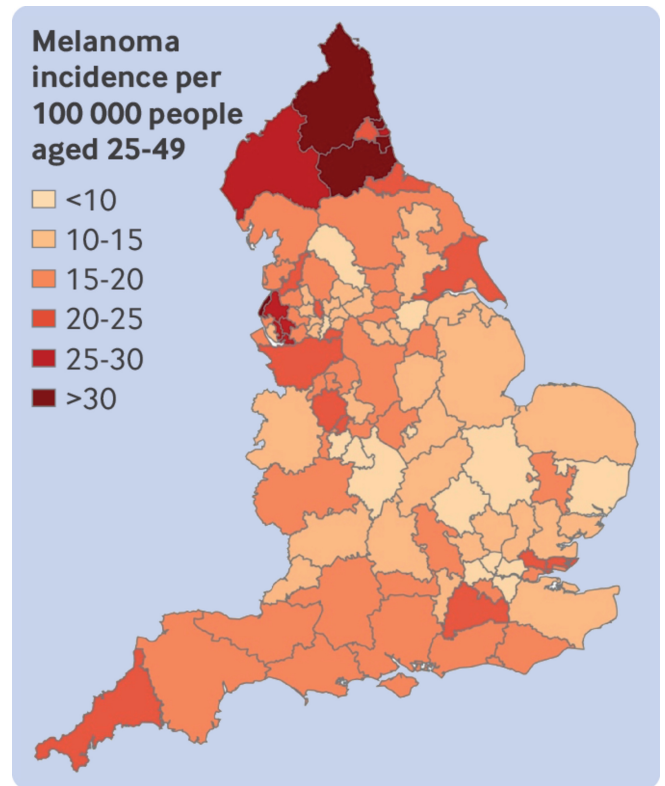


Fig 3 | Melanoma incidence in 25-49-year-olds per 100 000 population by sub-integrated care board region, England 2018-20

## Ineffectiveness of sunbed regulation

Even though adolescents are banned from using sunbeds in many countries, they still report surprisingly high use.<sup>1</sup> A 2025 survey by Melanoma Focus of 100 16-17 year olds in the UK found that 34% were using sunbeds despite the ban.<sup>11</sup>

The Republic of Ireland introduced stricter regulation of sunbeds in 2014, including mandatory health information for clients, supervised use by qualified facilitators, and bans on certain marketing practices and health claims. Although the number of registered sunbeds dropped (from 609 in 2015 to 365 in 2023),<sup>12</sup> an online survey in 2020 of 1043 people (representativeness unknown) showed that sunbed use remains high, with 42% reporting ever use and 11% use in the past year, with an average of eight sessions per person.<sup>13</sup> The percentage of under 18s using sunbeds barely changed (7.5% before the age ban; 7.2% after).<sup>14</sup> The Irish Institute of Public Health has now recommended a ban on sunbeds to reduce the risk of skin cancer in Ireland.<sup>15</sup>

Similarly, Iceland's regulation of sunbeds, including mandatory display of health risks in 2003 and banning sunbed use by under 18s in 2011,<sup>16</sup> led to a drop in sunbed availability but failed to protect young people, with those aged 15-17 now the primary users of sunbeds in Iceland.<sup>17</sup>

## Australia's 2016 sunbed ban

Australia banned sunbeds in 2016, but the context was different from the current position in the UK. The case was initially driven by high profile young patients with melanoma who had been frequent users, media advocacy, non-government organisations, and public health support. By 2010 all states in Australia had introduced strict regulation of sunbeds.<sup>18</sup> The number of commercial

tanning facilities reduced by 51%. Prevalence of sunbed use was considerably lower than in the UK—ever use in 2006–07 was 14% for adults aged 25–44 years,<sup>19</sup> as natural ultraviolet is readily available for those wanting a tan. In addition, there was no strong advocacy group for the sunbed industry.

The case for an outright ban was led by New South Wales (NSW), the most populous state. It was based on two government audits showing poor industry compliance with regulations; the challenges of enforcing tighter restrictions; and the mounting evidence of a causal link between sunbed use and melanoma. In February 2012, the NSW government announced a plan to ban all commercial sunbeds by the end of 2014. Other states quickly shifted to supporting an outright ban. Some states operated “buy back” schemes before the bans, where businesses sold their tanning units to government as compensation, ensuring devices did not go into private hands.<sup>20</sup> By 2017, adult sunbed use was under 1% and many businesses had diversified their services to spray tans and other beauty treatments.<sup>20</sup>

The sunbed ban was expected to avert over 31 000 melanomas (3.7% reduction) and over 468 000 basal cell carcinomas and squamous cell carcinomas (3.6%) over the lifetime of young Australians, as well as save over A\$64m (£31m; €36m; \$42m) in healthcare costs and bring over A\$516m in productivity gains.<sup>20</sup> The recent decline in melanoma rates among young Australian adults is attributed to effective prevention efforts, changes in patterns of recreational activities, and increased ethnic diversity of the population.<sup>7</sup>

## Refuting industry claims

The current situation in the UK is a clear example of an under-regulated industry aggressively marketing a harmful product to a vulnerable population. Many people use indoor tanning to improve their self-esteem and in the mistaken belief that it provides a “base tan” that prevents sun damage to their skin.<sup>21</sup> Such marketing promotes health inequalities with serious societal harms. Claims that modern sunbeds are safer are not substantiated by evidence of their measured radiation—for example, nine of 17 sunbeds tested in south Tyneside were above legal irradiation limits.<sup>22</sup>

Analysis of data from UK Biobank reported a reduction in all-cause mortality in sunbed users and those living in areas with higher ultraviolet levels.<sup>23</sup> However, methodological problems, including selection bias (minimum recruitment age of 37 excluded the highest risk group of sunbed users) and lack of updated information on participants’ overall ultraviolet exposure and associated lifestyle factors after recruitment, make interpretation of such results difficult.

The tanning bed industry also promotes vitamin D synthesis as a benefit of use. However, sunbeds predominantly emit UVA rays whereas UVB is required for vitamin D synthesis. Furthermore, since the action spectrums for vitamin D synthesis and skin carcinogenesis are similar, vitamin D photosynthesis cannot be disentangled from the carcinogenic effects of UVB exposure from sunbeds.<sup>24</sup> Thus, sunbeds cannot be recommended as a major source of vitamin D in fair skinned people.<sup>24</sup> Cancer risk associated with indoor tanning outweighs any beneficial effect of vitamin D production, and sufficient vitamin D can be attained by modest sun exposure or supplementation.<sup>24–25</sup> A recent position statement on sun exposure in Australian adults recognises that the risk-benefit balance of sun exposure varies with skin type and local ultraviolet conditions and emphasises the need to tailor public health messages to acknowledge the population’s ethnic diversity when promoting sun safety.<sup>25</sup>

## Enacting a ban

Current regulation has failed to prevent young people’s use of sunbeds. A study modelling the effect of a ban on people aged 18 in England in 2019, combined with a public information campaign, reported it would have a net monetary benefit of £10.6m and a gain of 530 quality life years.<sup>26</sup> Moreover, these benefits would recur as successive cohorts of young adults avoid sunbed use.

Factors contributing to use of sunbeds include sociocultural appearance ideals, mood enhancement, self-treatment for skin conditions or seasonal affective disorder, and influence from social media trends.<sup>21</sup> There is a tension between respecting individual consumer choice and supporting an activity with no meaningful health benefits that has serious potential consequences for users and the NHS. Similar arguments pertain to tobacco, alcohol, and highly processed foods. However, the challenges with banning these are more complex. For example, tobacco and alcohol have historically been deeply engrained in UK society and continue to bring in huge tax revenues, and there is a link between consumption of highly processed food and deprivation.

The economic impact of banning sunbeds on providers and communities also needs to be taken into account. It is difficult to model this accurately given that the number of providers is unclear. The reduction in providers in Ireland with the introduction of minimum quality and safety requirements suggests that many of these businesses were viable only in an unregulated environment.<sup>12–20</sup>

An immediate outright ban on commercial sunbeds alongside public education offers the most cost effective solution to reduce skin cancer, save lives, and ease the burden on the NHS. Indeed, given the complacency about sun safety in general in the UK,<sup>10</sup> a public information campaign about the dangers of indoor tanning accompanying the sunbed ban could be extended to raise public awareness about the long term dangers of intense sun exposure and the need for routine summer sun protection measures. Use of a buy-back scheme would remove commercial sunbeds from circulation and cost an estimated £11–55m,<sup>27</sup> depending on the level of compensation to mitigate industry pushback and the potential effect on livelihoods.

The UK government has pledged to prioritise prevention and to reduce health inequalities. Commercial sunbeds target those who are most disadvantaged and susceptible to harm. Enhanced efforts to encourage sun safe behaviours are critically needed but will likely take a generation to have an effect. A ban on commercial sunbeds is the first step in this process. It would send a clear message and have an immediate effect on skin cancer.

### Key messages

- Exposure to sunbeds causes melanoma and other skin cancers
- Current regulation has had little effect on the number of sunbed outlets in England or use by young people
- Distribution of outlets is correlated with regional melanoma incidence in young adults, particularly young women
- An outright ban of sunbeds is likely to be cost effective for the NHS

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Contributors and sources SK is a dermatologist in training. ACG is an epidemiologist and expert in melanoma causation and prevention. IC is a melanoma patient and advocate who created the Melanoma Patient Conference in 2016 and is a trustee of Melanoma Focus. SD is chief executive of Melanoma Focus, which provides information, guidance, and support for patients, carers, and healthcare professionals, and supports research in melanoma. PCL is a medical oncologist with expertise in

melanoma research and treatment. All authors contributed to ideas, writing, and revision of this article. PCL is the guarantor.

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