A Burning Issue?

A submission on

*Reducing Harm from Commercial Sunbeds*

Ministry of Health Consultation Document

From the *Cancer Society* Social & Behavioural Research Unit,
Department of Preventive & Social Medicine,
Dunedin School of Medicine,
University of Otago.

12/02/2016
Who we are

This submission was prepared by Research Associate Professor Anthony I. Reeder (Co-Director) and Bronwen McNoe (Research Fellow) of the Cancer Society Social & Behavioural Research Unit (SBRU) at the Dunedin School of Medicine.

The SBRU was established in 1990 and has continued since with core funding support from the Cancer Society of New Zealand Inc. and the University of Otago, supplemented with research project grants from a range of sources.

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What the Cancer Society Social & Behavioural Research Unit does

The main role of the SBRU is to carry out research and provide research based evidence to help inform efforts to achieve the goals of reducing cancer incidence, impact and inequalities in New Zealand (NZ).

A key area of SBRU research is skin cancer, about which Unit staff and postgraduate students have published more than 30 refereed scientific journal papers and numerous reports.

The SBRU has contributed to NZ Skin Cancer Steering Committee activities since 2000, producing two major reports which helped set the agenda for subsequent actions.(1, 2) We have worked closely with Cancer Society staff, both nationally and regionally, and collaborated in a number of skin cancer related activities with other agencies including the Health Sponsorship Council (now Health Promotion Agency (HPA), the Ministry of Health and the Accident Compensation Corporation (ACC).

This submission

This submission has been produced in response to the Ministry of Health’s consultation document on reducing harm from commercial sunbeds.(3) In particular, we draw on recent evidence from research conducted by the SBRU on the availability of indoor tanning services and devices in New Zealand (4) and with the preliminary opinion from the European Commission’s “Independent Scientific Committee on Emerging and Newly Identified Health Risks on Biological Effects of Ultraviolet Radiation Relevant to Health with Particular Reference to Sunbeds for Cosmetic Purposes”.(5)

This submission is structured as follows;

Section A: executive summary;

Section B: brief overview of the scientific rationale for a sunbed ban;

Section C: arguments used against a sunbed ban;

Section D: why regulation of sunbed operators will not be effective;

Section E: our recommendations;
Throughout this document we use the word “sunbed” to refer to all types of ultraviolet (UV) tanning devices intended for cosmetic purposes. Where we refer to the provision of devices for commercial use, we use the term “sunbed services” and the businesses that provide these services as “sunbed premises”.

**Declaration**

We give our permission for this submission to be released under the Official Information Act (1982) and we would be happy to give an oral submission to the Committee if required. We have no financial or other interests associated with the artificial tanning industry.
Section A. Executive summary

Background

- In NZ, skin cancer is by far the most common cancer type and accounts for about 500 deaths every year as well as placing a substantial cost-burden on the health system for treatment.
- The risk of developing a skin cancer can be reduced by minimising exposure to UVR.
- There is strong scientific evidence demonstrating an association between sunbed use and subsequent development of both melanoma and other skin cancers.
- It has been estimated that banning solariums would prevent 3.2% of melanomas in Australia and 5.4% of melanomas in Europe.
- Recent legislation in Australia bans commercial sunbeds, nationwide.

Refuting arguments in favour of retaining commercial sunbeds

- The consultation document clearly states “The main negative impact of banning the provision of sunbed services would be business closure and this would result in an unknown number of employees being made redundant”. In January 2016, the SBRU conducted a nation-wide audit of businesses potentially providing sunbed services (solariums, beauty salons, hairdressers, gyms and other fitness centres) to assess the availability and cost of indoor tanning services (sunbeds and spray tanning).
  - Found 172 sunbed premises (about 244 sunbeds) currently available in business premises nationwide. The majority of sunbed premises had only one (80.7%) or two sunbeds (9.6%).
  - For most businesses (92.2%) tanning services were supplementary to other services (hairdressers, beauty salons and gyms). Only 13 businesses providing sunbed services relied on indoor tanning as their sole source of income and most of these \((n=9)\) also offered spray tanning to customers. Very few business \((n=4)\) were reliant on sunbeds as their sole source of income and we believe those that are could re-orientate their business to provide spray tanning services in lieu of sunbeds.
- Sunbed use to supplement vitamin D levels is unnecessary and may in fact be detrimental to vitamin D levels. Despite the Commerce Commision Directive some sunbed providers continue to perpetuate the view that sunbeds are an acceptable means of maintaining adequate levels of vitamin D and achieving specific health outcomes.
- There is no safe level of use of sunbeds for people of any age and UVR is certainly not received in a controlled or safe way. The latest international evidence on modern sunbeds provides an estimate that their UV emissions correspond to a UV index of 12, i.e. equivalent to midday summer sun in NZ.
- The costs to society of treating skin cancer and the impact of skin cancer deaths far exceed the rights of an individual to temporarily change the colour of their skin for purely cosmetic purposes – particularly where alternative, less dangerous methods exist. We need to take a population health approach to this issue.
Why regulating sunbed operators will not work

- Lack of compliance of sunbed operators with the current voluntary Australia/NZ standard or with the Commerce Commission directive to not overstate perceived ‘benefits’ of sunbed use.
- The cost of regulation and compliance is prohibitive. Sunbed operators are geographically dispersed throughout the country so ongoing efforts to effectively ensure compliance are likely to be costly.
- Second hand ex-commercial sunbeds will be dumped onto the second hand market which is completely unregulated. We have evidence that this is currently happening in NZ. In Australia, operators were compensated by the state, which purchased and safely disposed of commercial sunbeds withdrawn from use.
- Educating individual New Zealanders on the risks associated with using sunbeds would require a prolonged and ongoing commitment by the Health Promotion Agency, the Cancer Society Inc. and other organisations working for the primary prevention of skin cancer.

Recommendation
Given that:
1) scientific evidence clearly shows there is no safe level of sunbed use for individuals of any age;
2) a ban would have no more than minimal impact on only a very small number of businesses;

We recommend that a ban be placed on the importation, manufacture, sale and rental of sunbeds for commercial or private use in NZ.
Section B: Background

Excessive exposure to ultraviolet radiation (UVR), whether from sunlight or from artificial sources, such as sunbeds, causes skin cancer.(6) In NZ, skin cancer is by far the most common cancer type (7) and from it nearly 500 New Zealanders die annually.(8) In addition NZ has the world’s highest mortality rate for cutaneous malignant melanoma (melanoma), the most deadly of the skin cancers (see Figure 1).(9) And yet, unlike many cancers, we know the main cause of skin cancer, and that the risk of developing a skin cancer can be mitigated by minimising exposure to UVR.(10) Of particular relevance to this submission is the strong scientific evidence showing the association between sunbed use and both melanoma and non-melanoma skin cancers.(11, 12) In Australia, it has been estimated that 3.2% of melanomas and 3.5% of melanoma deaths are due to sunbed exposure.(13) In Europe, it is estimated that 5.4% of all new cases of melanoma may be related to sunbed use.(5)

Figure 1: Melanoma of the skin – age standardised rates by country(9)

Australia, which has similarly high rates of melanoma to NZ, is the world leader in skin cancer control. For over 30 years Australian agencies have had a comprehensive primary prevention focus (i.e. preventing the onset of skin cancer by reducing population exposure to UVR), including SunSmart policies in schools, workplaces and outdoor recreational settings as well as wide-spread media coverage promoting SunSmart behaviour. Australians are now starting to reap the benefits of this commitment, with a downward trend appearing in melanoma rates among the younger age groups who have benefited from these SunSmart policies since childhood.(14) The most recent development
in skin cancer control in Australia is legislation related to the use of commercial sunbeds. Australian politicians have weighed the compelling scientific evidence for the association between skin cancer and sunbed use against the individual’s right to choose and concluded that there was a clear need to legislate for a total ban on all commercial sunbeds. Unfortunately, despite similarly high melanoma rates, large numbers of non-melanoma skin cancer cases, seasonally extreme levels of UVR and the popularity of outdoor lifestyles, NZ continues to lag behind Australia in applying evidenced-based skin cancer control policies.

The NZ Government can be commended for taking the first step towards reducing the harm caused by exposure to sunbed use by restricting access to those aged over 18 years of age (assuming The Health (Protection) Amendment Bill 2014 is passed). However, the scientific evidence clearly shows that there is no safe level of sunbed use for individuals of any age (11, 12), so we believe that this Bill does not go far enough, instead there should be an outright ban on the importation, manufacture, sale and rental of sunbeds for commercial or private use.
Section C: Checking the accuracy of statements in favour of retaining commercial sunbeds

A number of arguments have been made to support retaining sunbeds in a commercial setting. We would like to take this opportunity to refute these.

C1. Business closure and loss of revenue
The consultation document (3) clearly states “The main negative impact of banning the provision of sunbed services would be business closure and this would result in an unknown number of employees being made redundant”. To help quantify this issue, in January 2016, the SBRU conducted a nation-wide audit of 4,815 solariums and businesses providing spray tanning services, beauty salons, hairdressers, gyms and other fitness centres to assess the availability and cost of indoor tanning services (sunbeds and spray tanning).(4) The methods used for that audit are provided in Appendix 1. The information needed was gained from 4,563 (94.8%) of identified businesses (28 businesses declined to participate, 19 respondents had poor English language skills and 204 could not be contacted).

Number of sunbed premises
Nationally, we found that there were at least 172 sunbed premises operating commercially.(4) Two of these were sunbed rental companies that did not provide ‘in house’ tanning services, four businesses responded that their sunbeds were not currently being used so these have been removed from subsequent analysis. Of the 166 sunbed premises, (with an estimated 244 units1) the majority only had one sunbed (n=134, 80.7%), 16 (9.6%) had two sunbeds and one (0.6%) had three sunbeds. The remaining fifteen premises (9.0%) had four or more sunbeds.

Types of sunbed premises
An overview of the types of business providing sunbeds to customers is provided in Figure 2. For most (92.2%) the provision of tanning services was supplementary to other services. Only 13 sunbed premises (7.8%) relied on tanning as their sole source of income, but most (n=9) of these offered spray tanning to customers, an established, generally acceptable alternative service.2 Very few businesses (n=4) were reliant on sunbeds as their sole source of income and, as other businesses solely providing tanning services do, could potentially re-orientate their businesses to provide spray tanning services in lieu of sunbeds.

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1 Four premises (all had ‘tanning’ as the core of their business) were not prepared to provide this information – a conservative assumption (4 sunbeds), based on the number of beds in similar businesses was made.
2 Spray tans are considered a safe alternative by the Ministry of Health and the chemical composition of spray tans is regulated by the Environmental Protection Agency.
**Cost of indoor tanning**

Spray tanning is more labour intensive than the provision of sunbeds, so the cost per unit is considerably higher (mean approximately $45 full body tan vs $10 per casual sunbed session\(^3\)). The sunbed rental companies charged between $32.50 and $60 per week (although the length of contract was different).

**Availability of spray tanning services**

In the process of our audit we identified 971 businesses offering spray tanning services in NZ (Table 1). Spray tanning is primarily provided by beauty salons or dedicated indoor tanning businesses and to a lesser degree by hairdressers. Gyms and fitness centres which have previously offered sunbeds as a supplementary service to customers appear to now be providing saunas and spas, instead (although we did not attempt to quantify this).

**Table 1: Types of businesses offering spray tanning services\(^1\)**

<table>
<thead>
<tr>
<th>Type of business</th>
<th>Identified N</th>
<th>Spray tanning N</th>
<th>Spray tanning %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beauty salons</td>
<td>1546</td>
<td>719</td>
<td>46.5</td>
</tr>
<tr>
<td>Hair dressers</td>
<td>2246</td>
<td>195</td>
<td>8.7</td>
</tr>
<tr>
<td>Gyms &amp; fitness centres</td>
<td>758</td>
<td>14</td>
<td>1.8</td>
</tr>
<tr>
<td>Indoor tanning business (including spray tanning ‘only’ services &amp; solariums)</td>
<td>103</td>
<td>99</td>
<td>96.1</td>
</tr>
</tbody>
</table>

\(^1\) Not mutually exclusive categories

\(^3\) Where rate per minute was given we assumed a 6 minute session.
Supported by the figures above, we would anticipate that few, if any, job losses need result from a total ban on sunbeds but that, given the more labour intensive nature of spray tanning, it may in fact create additional employment opportunities. As has happened in Australia, business owners could be compensated for the loss of cosmetic tanning equipment and methods for the safe disposal of equipment could be provided. This would also largely reduce the risk of old and second hand sunbeds being dumped onto the second hand market, as is happening currently (see p13). The cost of providing these services would be minimal (in Australia this was between $1,000 and $5,000 per sunbed with a higher price paid if relinquished earlier rather than later).

C2. Alleged health benefits of commercial sunbeds

In 2011, the Commerce Commission cautioned the indoor tanning industry about overstating the benefits of sunbed use.(15) We found many examples of sunbed providers continuing to perpetuate the view that sunbeds are an acceptable means of maintaining adequate levels of vitamin D and achieving specific health outcomes. A couple of examples are provided in Figure 3.

Figure 3: Examples of sunbed premises alleging health benefits from sunbeds

This perception, promoted by some sunbed operators has disseminated into the general population. Extracts from the TradeMe® auction site, where sunbeds are being sold, demonstrate this (Figure 4).

Figure 4: Excerpts from TradeMe® demonstrating public perception that sunbeds provide vitamin D

"Many New Zealanders do not have enough vitamin D in their system for optimum health and this is the best way to get it when the sun is not providing it." Seller(26/11/2015)

"I want to boost my vitamin D levels in winter" Buyer(26/1/2016)

"I am looking for a sunbed for vitamin D production in my skin" Buyer(27/01/2016)

"I want a bed with a higher UVB to UVA % to increase my vitamin D levels" Buyer (2/2/2016)
Sunbed use to supplement vitamin D levels is unnecessary and may in fact be detrimental to vitamin D levels. There is evidence that UVB emitted from sunbeds can induce vitamin D production, but excess exposure leads to photodegradation of pre-vitamin D3 in the skin. The Ministry of Health Adult Nutrition Survey reported that only 5% of the NZ population was vitamin D deficient (<25nmol/L), following a strong seasonal pattern. The current Consensus Statement on Vitamin D and Sun Exposure in New Zealand states that at-risk groups should be considered for oral supplementation. People with a severe vitamin D deficiency have a clinical condition and, as with other medical conditions should be treated by a physician in a controlled medical setting.

C3. Sunbeds provide UVR to individuals at a controlled level
Promoters in the Indoor Tanning Industry have argued that sunbeds are a safer alternative to obtaining a tan than natural sunlight, as the UVR is received in a controlled way. One example of a sunbed premises doing this on their website is provided in Figure 5.

Figure 5: Sunbed operator claims that sunbeds provide UVR at a controlled level


First we would like to reiterate that there is no safe level of use of sunbeds for people of any age. Secondly we would argue that UVR is certainly not received in a controlled or safe way. The latest international evidence on modern sunbeds estimate that the UV emissions corresponds to a UV index (UVI) of 12 i.e. equivalent to midday tropical sun. An Australian study found that 15% of tanning beds exceeded a UVI of 12 and that some sunbeds emitted up to 12 times the amount of UVR as the summer sun. In England, 90% of commercial sunbeds emit an exposure six times greater than the sun. There is no routine monitoring of the emission of UVR from sunbeds in New Zealand, but one assessed by NIWA provided some rather alarming data with the UVI of the sunbed being 10 times that of the summer sun. The spectrum of sunbed UVR emissions also tends to be significantly different from that of sunlight. There are large variations in the UV output of tanning beds and the UV spectrum emitted by these has changed in recent years towards higher UVA irradiance. Consumer NZ found during their ‘secret shopper’ survey’s that the skin type questionnaire used by sunbed operators to discriminate between type 1 and type 2 skin did not reliably distinguish between these skin types, which may result in the timing of a session being inadequately controlled.

C4. Individuals have a right to choose whether or not to use a sunbed
“A key concern for the Ministry of Health is that banning sunbeds would contravene one of the key objectives of a public health intervention that it would “prevent access to sunbed services by adults who are well informed and choose to take the risk of UV tanning for cosmetic purposes unless there is

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4 Personal communication with Belinda Castle (Consumer NZ) 2/2/2016
a very good reason to do so and on balance that it is perceived to be overly intrusive on public freedoms". (15)

We are fortunate to live in a country where we have freedom of choice in most areas of our lives. However, when warranted, our governments have put in place legislation that does restrict individual freedom of choice in order to protect community well-being. For example, in workplaces workers are required to wear protective clothing, on the road we are required to wear cycle helmets and seat belts, and in our homes the use of asbestos products (similarly to sunbeds in being classified as a type 1 carcinogen) is prohibited. We know that skin cancer is a serious health issue in New Zealand and the cause is almost entirely potentially modifiable by a reduction in excessive UVR exposure. Yet we allow businesses to operate a cosmetic service that exposes customers to a type 1 carcinogen (UVR), a known risk factor for skin cancer, for financial gain. Bizarrely, some of these businesses are offering ‘claimed’ anti-ageing treatments that reduce evidence of sun damage or healthy lifestyle services alongside sunbed services which are known to contribute to ‘skin ageing’ and skin cancer. The businesses shown in Figure 5 sell sunbed and anti-ageing services concurrently.

**Figure 5: Businesses providing anomalous ‘anti-ageing’ and sunbed services**

In the present case, the well-being of the community has to be balanced against an individual’s right to access a potentially harmful, discretionary cosmetic service. The costs of skin cancer treatment to the NZ health system was conservatively estimated to be in excess of $53.1 million, based on 2006 population data and, in part, on extrapolation from 1998 regional treatment costs for all skin cancer types. (7) Since skin cancer rates have continued to increase, we have an ageing population and expensive new generation melanoma drugs have become available, the costs associated with treating skin cancer are likely to increase substantially. In the US, the average annual cost of skin cancer treatment increased 126% between the periods 2002-6 and 2007-11. (21) Primary prevention is a cost effective way to address skin cancer and removing exposure to sunbeds, an unnecessary hazard, is an important component. (22)

If we put aside the magnitude of the number and costs of skin cancers in NZ and simply look at melanoma deaths, by extrapolating from Australian estimates that 3.5% of melanoma deaths would be prevented by banning solariums (13), we could potentially save twelve NZ lives every year by
banning solariums. We believe this to be a “very good reason” to ban sunbeds even though it means restricting “an informed adult’s public freedom to choose to take the risk” to change the colour of their skin for purely cosmetic reasons.

**C5. An individual’s increased risk is small**

The scientific evidence estimates that sunbed use prior to age 35 elevates the risk of developing melanoma by as much as 59%.(23) The Indoor Tanning Industry argues that the individual risk of developing melanoma is actually very small and so that elevating that risk substantially still results in a very small individual risk (Figure 7).

**Figure 7: Indoor tanning industry perception that individual risk of melanoma is small**

http://intanz-indoortanning.blogspot.co.nz/search/label/Media%20Commentary Accessed 1 February 2016

Our concern, and we would assume the NZ Government’s concern would be, not individual risk but population-wide risk. An analogy would be motor vehicle crashes, which result in a similar number of deaths per year as does cutaneous melanoma. As the likelihood of being involved in a fatal crash is relatively small, on an individual level it could be argued that wearing a seatbelt may have very little benefit. However on a population level, if every individual travelling in a motor vehicle wears a seat belt, the number of deaths and serious injuries in the total population is substantially reduced. Similarly with sunbeds, although the risk of dying from skin cancer as a result of sunbed exposure may be relatively low, if no-one in the population uses a sunbed then the number of skin cancers caused by this unnecessary exposure can be eliminated.

**C6. Contradictory evidence**

Some defenders of the indoor tanning industry continue to cite isolated studies, out-dated scientific papers and non-scientific lay literature that question the association between sunbed use and melanoma. It is a very unwise practice to draw conclusions from isolated studies as they can be open to problems of study design (e.g. underpowered to detect statistically significant differences), subject to uncontrolled bias or inappropriately extrapolated to populations other than those originally studied. It is important to evaluate the overall body of evidence accumulated from well-conducted systematic reviews or meta-analyses which assess the evidence in a systematic way and evaluate the quality of the studies concerned. There have been two important systematic reviews which evaluated the risk of sunbed use, one for melanoma (which included 27 studies) (11) and one for non-melanoma skin cancers (which included 12 studies). The risk of melanoma for individuals who ever used sunbeds was increased by 20% and this risk was nearly doubled for sunbed use prior to age 35.(11) For squamous cell and basal cell carcinoma the risk was 67% and 29%, respectively, compared to never use.(12)
Section D: Why regulating sunbed operators will be ineffective

We would like to reiterate that the scientific evidence clearly shows there is no safe level of sunbed use for individuals of any age.(11, 12). We believe the Ministry’s preferred option of regulating the sunbed industry will be ineffective.

D1. Lack of compliance with voluntary joint Australia/NZ Standard

Operators have repeatedly been shown to be failing to comply with the voluntary joint standard of operation.(24) In Australia a lack of compliance with regulations by sunbed providers contributed to the total ban on commercial sunbeds.(25) Since the standard is not mandatory in NZ, operators can legally choose not to comply. However, the Commerce Commission directive to not overstate the benefits of sunbed use is not voluntary.(15) During our recent audit process we found numerous examples of sunbed operators flouting this ruling (Figure 8 shows some examples). This is indicative that sunbed operators are unlikely to readily comply with mandatory regulations.

**Figure 8: Sunbed operators do not comply with Commerce Commission directive**


D2. Costs of regulation and compliance prohibitive
Sunbed operators are geographically dispersed throughout the country (Figure 9) so ongoing effort to ensure operator compliance is likely to be costly.

*Figure 9: Geographical distribution of sunbed premises in New Zealand in January 2016*
The practicality of obtaining and maintaining a current and accurate list of sunbed premises is also problematic. In 2015, staff from District Health Boards throughout NZ identified 124 businesses providing sunbed services.\(^{(26)}\) The audit that we have just conducted, for which (with two exceptions\(^{5}\)) we required a telephone confirmation of the availability of sunbed services, identified at least 172 sunbed premises. Even after removing the four businesses where sunbeds are currently out of commission, the business where a sunbed will be installed within the next month, and two sunbed rental businesses, we obtained a number which was 33% higher than that reported by the Ministry.

On the positive side, the overall number of sunbed businesses is likely to be declining, most likely because the effort of being compliant with existing and proposed constraints is greater than the financial gain ("with the new restrictions it was a nightmare to run one", "got rid of it, too much red tape" were comments made by sunbed operators during our audit), and the increased availability of spray tanning as an acceptable alternative for customers desiring a tan. As an indicator for this we have looked at the number of businesses currently listing sunbed or solarium services\(^{6}\) on The Yellow Pages (\(n=92\)). We found that 8 (8.7%) of the businesses currently listed are no longer operational and 41 (44.6%) are no longer providing sunbed services. Interestingly, even in this declining market we found one business was about to start selling sunbed services to customers within the next month. Anecdotally, 102 business owners told us they used to have a sunbed in their business but no longer do so.

**D3. Second hand sunbed sales and disposal**

We have been monitoring New Zealand’s largest market of second hand goods (Trade Me\(^{©}\)) for listings of sunbeds for sale. It is likely that some commercial operators have been off-loading their ‘old’ sunbeds onto the second hand market. Over the past 3 months, we have identified 61 sunbeds\(^7\) or sunlamps listed for sale, and at least eleven have been confirmed as having been used commercially. On the whole, these commercial units are at least 10 years old and often sell very cheaply (Figure 9). There has been no advice in the description field on the website about ‘safe’ use of these products.

These machines are cumbersome and contain mercury so disposal is problematic. By selling machines online very cheaply, businesses can avoid paying for the costs of safe disposal. It seems likely that compliance with safe disposal may be too much effort for some sunbed operators and the practice of dumping sunbeds onto the second hand market more widespread. In Australia, operators were compensated by the state, which purchased and safely disposed of commercial sunbeds withdrawn from use. In response to a letter from the Cancer Society of New Zealand (& Consumer), Trade Me\(^{©}\) declined to withdraw products from sale unless their use was banned.

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\(^{5}\) These two businesses could not be contacted by phone but had current and extensive web pages on their sunbed services so were accepted as being correct.

\(^{6}\) Made the assumption that sunbed or solarium services meant advertising sunbeds not spray tanning.

\(^{7}\) Excluding those listed multiple times.
**Figure 9: Ex-commercial sunbeds for sale on Trade Me**

<table>
<thead>
<tr>
<th>Start price &amp; Age</th>
<th>Start price &amp; Age</th>
<th>Start price &amp; Age</th>
</tr>
</thead>
<tbody>
<tr>
<td>$300 start price (no bids) Age unknown</td>
<td>$1.50 (sold) 10 years old</td>
<td>Buy now $3200 17 years old (closes 17/2)</td>
</tr>
<tr>
<td>$5000 (no bids) Age unknown</td>
<td>Buy now $2500 18 months old (closes 12/2)</td>
<td>$150 (sold) Age unknown</td>
</tr>
<tr>
<td>Start price $180 (no bids) Age unknown</td>
<td>Start price $650 (not sold) 8-10 years old</td>
<td>Buy now $150 (not sold) About 15 years old</td>
</tr>
<tr>
<td>$250 (sold) Age unknown</td>
<td>Start price $1 (no reserve) Age unknown (closes 17/2)</td>
<td></td>
</tr>
</tbody>
</table>
Two of the postings for ex-commercial sunbeds suggested that they could continue to be used in a commercial setting which seems to be another example of irresponsible behaviour by sunbed operators.

“Great add on for your salon, spa or gym” (16/11/2015)

“Great little business from home” (26/01/2016)

Descriptions on products provided on second hand websites like Trade Me© are completely unregulated and health claims continue to be regularly made:

“Perfect for increasing vitamin d levels, I have also had customers say it's reduced or gotten rid of their psoriasis” “great for eczema, healed me……”, “used to help with skin condition and get it under control”, “Ideal for psoriasis control”, “ideal for psoriasis, vitiligo or that perfect summer tan”, “Great way to get a tan and vitamin D during the 7 months of the year the sun does not provide vitamin D at our latitude”, “Where natural sunshine is lacking, the Philips sun-lamp will help you. Like the sun itself, the Philips sun-lamp emits ultra-violet light. The glass bulb of the lamp filters the ultra-violet light which ensures optimum tanning results without annoying formation of ozone”.(Health claims made on Trade Me© sale of sunbeds descriptions between 1/11/2015 and 12/2/2016)

Most of the sunbeds being offered for sale have been more than 10 years old and of particular concern is some of the reported damage to timers which are critical in minimising exposure to UVR.

“timer knob not keeping to time”, “the bottom knob is missing but you can pull the top knob off to set the bottom timer”, “timer broken so you need to set alarm on phone”. (Trade Me© sale of sunbeds descriptions between 1/11/2015 and 12/2/2016)

D4. Consumers may assume licensed premises are providing ‘safe’ sunbed services

Consumers may assume, if regulations are put in place and sunbed premises are licensed, that sunbeds are safe to use. Sunbed providers are certainly currently perpetuating that view (Figure 10).

**Figure 10: Sunbed operators implying their service is ‘safe’**


D5. Education of consumers

Educating individual New Zealanders on the risks associated with using sunbeds would be a prolonged and ongoing commitment for the Health Promotion Agency, the Cancer Society Inc. and other organisations working in the primary prevention of skin cancer. The already high and potentially increasing rates of skin cancer suggest that New Zealanders are either not well informed about the risks of solar UVR and/or artificially produced UVR or choose to ignore the risks. A survey of over 1,000 New Zealanders on their understanding of the risks associated with cancer (SBRU in 2014/2015) asked respondents “what increases your risk of getting melanoma”, prompts were not given. Preliminary findings suggest that only 12% of respondents reported a sunlamp or sunbed. Even being educated about the risk of a specific behaviour does not necessarily change that behaviour. For example, a survey of young people in NZ showed that despite being aware of the risks associated with sunbed use they still chose to use them.(27)

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8 Personal communication with Rosalina Richards, co-director of Cancer Society Social and Behavioural Research Unit, 2 February 2016.
Section E: Our recommendation

Businesses that offer cosmetic sunbed services are selling exposure to a type-1 carcinogen for financial gain. This should not be acceptable to an organisation (the Ministry of Health) charged with protecting the health and wellbeing of New Zealanders.

We recommend an outright ban on the importation, manufacture, sale and rental of sunbeds for commercial or private use (Option 5).
Section F: Appendix 1

Methods for Audit

We identified solariums, spray tan operators, beauty salons, hairdressers, gyms and fitness centres using searches of yellow pages, web sites and Consumer NZ lists. A phone call was made to each business to determine the availability of a sunbed or spray tanning services, number and type of beds (horizontal, vertical), price of sunbed use (1 casual session) and spray tan services (full body spray).

**Figure 11: Brief overview of process for conducting audit**

Identification of: $(n=6194)$
- Solariums
- Spray tanning businesses
- Beauty salons or hairdressers
- Gyms & fitness centres

Phone-call to determine availability of commercial sunbed and/or spray tanning facilities**

Assumption made that no indoor tanning services would be available
- Barbers
- Medispa – not providing cosmetic beauty services
- Franchises ‘haircuts only’ e.g. Just Cutz

Not applicable $(n=1380)$
- duplicate listings
- business with other purposes (e.g. paint ball, swim school)
- businesses selling product not services (e.g. shampoo supplier)
- no longer operating

** 2 Exceptions – 1 business closed for summer months and 1 business could not be contacted – both had current, up-to-date websites that clearly showed the availability of sunbed services.

Critical information:

- **Information not gained for 5.2% businesses (28 declined to participate; 19 respondents had poor English language skills; 204 could not be contacted).**
- We obtained ethical approval from the University Of Otago Human Ethics Committee (D16/018 23 December 2015). When we phoned the businesses we clearly identified that we were from the University of Otago and were doing a survey on indoor tanning.
- We gratefully acknowledge the contribution of our telephone interviewers Juliet Clark and Carol Mackay for their methodical data collection and Consumer New Zealand (in particular Belinda Castle) for providing us with their current list of sunbed premises.
- Limitations – this is likely to be an under-estimate of the number of sunbed premises and sunbeds in NZ. There will be businesses that we have missed, businesses which declined to participate or could not be contacted and, potentially, business operators who were not truthful. We also restricted our search to not include accommodation. Although there is the potential for sunbeds to be offered in the context of accommodation provision, we think this is unlikely to be a widespread practice.
Section G: Bibliography

1. Reeder AI. Skin cancer prevention in New Zealand: a discussion document to help guide future SunSmart programme directions. Dunedin: Department of Preventive & Social Medicine, Dunedin School of Medicine, 2001 August 16.
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5. European Commission - Scientific Committee on Emerging and Newly Identified Health Risks. Preliminary opinion on biological effects of ultraviolet radiation relevant to health with particular reference to sunbeds for cosmetic purposes. 2015.