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ORIGINAL ARTICLE

Cosmetic business mechanics in London: A cross-sectional analysis and audit of ASA compliance

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Abstract

Introduction: The proliferation of providers and practitioners of cosmetic botulinum toxin and dermal filler has profound public health implications. The Advertising Standards Authority (ASA) regulates the use of advertising materials in the United Kingdom and prohibits the promotion of prescription-only medicines.

Aims: We aim to perform a cross-sectional analysis of the practitioners in London, UK to evaluate the distribution of clinics within Greater London, prices advertised for interventions, and compliance with the ASA code. We also aim to identify whether there are any differences in cost of botulinum toxin or dermal filler between the boroughs.

Methods: Between December 2021 and January 2022, we performed a systematic search using the internet search engine Google. Five searches were performed (1) [london] botox, (2) [london] botulinum toxin, (3) [london] anti wrinkle injection, (4) [london] filler, (5) [london] dermal filler. One hundred websites per search string were systematically reviewed and those which met the inclusion/exclusion criteria of each search string were included and analyzed. Each clinic's product/service range compliance with the ASA/CAP code was assessed. Any reference to Botulinum Toxin or anti-wrinkle injections was noted and analyzed. Further analysis would look to calculate price per milliliter (mL) of botulinum toxin and dermal filler per borough and to calculate whether there were any statistical differences between the 32 different London boroughs.

Results: A total of 500 websites were visited and evaluated. After removal of duplicates, a total of 233 independent clinics was identified. A total of 206 out of the 233 clinics sampled (88%) were in direct infringement of the enforcement notice through advertising a prescription medicine. The overall average cost per mL of dermal filler was £330.89 and there was a statistically significant variance across London boroughs ($p < 0.05$). The overall average cost per mL of Botulinum Toxin was £284.45 and the variance across London boroughs was close to significant ($p = 0.058$).

Conclusion: This paper demonstrates poor compliance with the ASA/CAP guidelines and further provides an insight into the industry mechanics associated with aesthetic injectables in a major UK city, identifying regional variance in price and clinic density. The advertising of prescription-only medication may pose a potential risk to patients and will be an important consideration in proposed legislation to introduce licensing to the industry.

KEYWORDS
botulinum toxin, cosmetic legislations, dermal filler

1 | INTRODUCTION

The proliferation of providers and practitioners of cosmetic botulinum toxin and dermal filler has profound public health implications. The size of the market is estimated to be growing at a compound annual growth rate of 12.4% globally from 2022 to 2030.[1] The growth of the market could be assessed using a simple supply and demand analysis whereby, the demand for injectable interventions continues to grow with supply of practitioners growing to match or keep up with demand. The rapid growth in demand has been attributed to a variety of factors including convenience, low downtime, perceived minimal risk, social factors through networks, price points, and increase in marketing.[2]

A more granular assessment of the market could be performed using Michael Porter's five forces model assessing[3]: supplier power, buyer power, threat of new entrants, threat of substitutes, and intrinsic industry rivalry. Each of these five elements have become a staple and formative analytical starting point across business schools and businesses globally. Buyer power in this industry is significant as patients have low to no switching costs, can influence price sensitivity, and due to buyer and supplier concentration are able to move to a different provider with relative ease. The supplier power is related to how well aesthetic practitioners can differentiate their product, which explains why practitioners try to innovate the delivery or assessment of their interventions. Some practitioners utilize add-ons and supplementary interventions and complementary products such as extra creams and skin care. Threat of substitution includes a spectrum of interventions including non-invasive to more invasive surgical interventions. The threat of new entrants is assessed by understanding requirements such as relatively low capital requirements to set up a practice, relative to for example a surgical practice. In addition, due to the low switching costs and price sensitivity, price differentiation may result in a potential strategic advantage. In addition, government or legal regulation is often a significant barrier to entry, however, there is little to no regulation in terms of provision of non-surgical aesthetics. The final facet of Porter's five forces is industry rivalry, which through continually increasing in size suggests continued growth.

To further understand industry rivalry, we leverage Jerome McCarthy's 4Ps framework, which describes Product, Place, Price, and Promotion. The products being considered are both botulinum toxin and dermal fillers. While their administration is aimed to be standardized and is licensed for specific indications by the Medicines Health Regulatory Agency (MHRA) in the United Kingdom, the overall consideration and use is where practitioners often seek to differentiate themselves through novel techniques of administration or purported differential understandings of achieving 'facial harmony'.[4,5]

Place or location of a clinic is often perceived as a signal of competence and quality, and no address exemplifies this better than Harley Street, in London,[6] which for over 200 years has been associated with high-end specialist care. However, overcrowding and an increased density of providers drives competition leading to some practitioners having to look to differentiate or promote themselves further. Furthermore, given the potential small differences in the product offering, patients may go to a more local provider for convenience.

Price is a further form of signaling which influences how costs are determined. While a variety of pricing strategies exist including value-based and cost-based pricing, patients often use price as a signal of quality. While previously considered a luxury,[7] the precise definition of cosmetic interventions as either an elastic or inelastic product is subject to controversy and debate with changing patterns of purchasing noted.[8] More work will need to be done, particularly in the current economic climates to understand whether skincare and aesthetics are now considered an essential product, and therefore become price inelastic.

The final element of McCarthy's framework is Promotion, some aspects of which have already been discussed above relating to product, place, and price. Promotion is challenging in a crowded market, and marketers often take novel and innovative steps to promote their work. Studies have shown a variety methods leveraged to market cosmetics including drawing attention to physical flaws, 'playing on femininity and sensuality', referencing natural appearance, promises of improved self-image and quality of life and financial packages/incentive.[9] The internet and social media have significantly changed the landscape of marketing and this has had profound implications for practitioners, with some authors criticizing the ineffective use of such platforms in obtaining greater exposure and subsequent patient interest.[10]

In the United Kingdom (UK), the Advertising Standards Authority (ASA) is the UK's advertising regulator. ASA works alongside the Committee of Advertising Practice (CAP) which writes the advertising codes and ASA ensures compliance. While the ASA has no legal power as a non-government organization, the Authority can exercise a legal backstop in the form of Trading Standards officers who use UK law to enforce consumer protection laws such as the Consumer Protection from Unfair Trading Regulations 2008 and the Business Protection from Misleading Marketing Regulations 2008. Furthermore, ASA can impose a variety of sanctions, for instance banning advertising, revoking trading privileges, and pre-publication vetting.

On 9 January 2020, CAP published an enforcement notice[11] reminding practitioners that in accordance with Rule 12.12 of the CAP Code and the Human Medicines Regulations 2012 (HMRs), the advertising of prescription-only medications such as Botulinum Toxin is prohibited. This included any reference to Botulinum Toxin and its brand names such as Botox, Vistabel, Dysport, Bocouture, and Azzalure. Furthermore, the notice stated that the use of the term anti-wrinkle injections was also prohibited. The notice stated that after Friday 31 January 2020, targeted enforcement action using monitoring technology will be performed whereby problem posts are identified. The statement further advised that sanctions for non-compliance include referral to the MHRA or professional regulatory body.

1.1 | Aims

We aim to perform a cross-sectional analysis of the practitioners in London, UK, to evaluate place, price, and promotion. Specifically, we will be assessing the distribution of clinics within the Greater London area across London boroughs, prices advertised for interventions, and compliance with the ASA/CAP code.

We also aim to identify whether there were any differences in cost of botulinum toxin or dermal filler between the boroughs.

2 | METHODS

Between December 2021 and January 2022, we performed a systematic search using the internet search engine Google using an adaption of a validated methodology previously described.[12] In constructing the search strings, we looked to replicate as closely as possible the types of searches the public undertake when searching for practitioners. Five searches were performed (1) [london] botox, (2) [london] botulinum toxin, (3) [london] anti-wrinkle injection, (4) [london] filler, (5) [london] dermal filler. One hundred websites per search string were systematically reviewed and those which met the inclusion/exclusion criteria of each search string were included and analyzed. The data extracted included the name of a clinic, address including postcode, names of different products/services and prices of products offered.

Inclusion criteria included websites relating to services in the UK, offering specifically aesthetic interventions to the face. Exclusion criteria included any non-injectable intervention. There

TABLE 1 Number of clinics per region.

Borough/Region	Number of clinics
Westminster	113
Kensington and Chelsea	28
City of London	9
Wandsworth	8
Camden	7
Tower Hamlets	5
Lambeth	5
Hammersmith and Fulham	5
Haringey	4
Richmond upon Thames	4
Hounslow	4
Barnet	3
Redbridge	3
Ealing	2
Enfield	2
Guildford	2
Bromley	2
Hackney	2
Islington	2
Basildon	2
Southend-on-Sea	1
Newham	1
West Byfleet	1
Brent	1
Kingston upon Thames	1
Croydon	1
Hillingdon	1
Thornton Heath	1
Surrey	1
Greenwich	1
Cobham and Downside	1
Surbiton	1
Slough	1
Epping Forest	1
Egham	1
Worthing	1
Colchester	1
Waverley	1
St Albans	1
Southwark	1
Warlingham	1
Total	233

were two independent reviewers, assessing inclusion, and exclusion of website and extracting the data. Any disagreements were to be resolved by the supervising author. Kappa score for practitioner evaluation and inclusion was 1. Data from post codes were mapped to London boroughs and, if applicable, surrounding regions.

Each clinic's product/service range compliance to the ASA/CAP code was assessed. Any reference to Botulinum Toxin and its brand names such as Botox, Vistabel, Dysport, Bocouture, and Azzalure or anti-wrinkle injections was noted and analyzed.

Further analysis would look to calculate price per milliliter (mL) of botulinum toxin and dermal Filler per borough and to calculate whether there were any statistical differences between the 32 different London boroughs. A statistical analysis was performed with Microsoft Excel (Microsoft Corporation) using the one-way Analysis of Variance Test (ANOVA) and a p value of <0.05 was deemed as statistically significant.

3 | RESULTS

A total of 500 websites were visited and evaluated. After the removal of duplicates, a total of 233 independent clinics were identified in Greater London, and the surrounding areas Sussex, Essex, and Surrey (Table 1). A total of 25 of the 32 London boroughs were represented in this cross-sectional study. The borough of Westminster had the greatest density of clinics ($N=133$, 48%; Figure 1). Of note, despite the search string, some regions beyond London were captured by our data.

3.1 | Dermal fillers

The overall average cost per mL of dermal filler was £330.89 with variation of costs per regions in Tables 2 and 3 and Figure 2. In evaluating the costs of dermal fillers, we included treatments described as: cheek filler, dermal filler, filler, filler injections, and lip fillers.

The data presented only include the treatments offered where both price and quantity (mL) were available (Tables 2 and 3, Figure 2).

3.2 | Botulinum Toxin

The overall average cost per mL of Botulinum Toxin was £284.45. In evaluating the costs of Botulinum Toxin, we included treatments described as: Anti-wrinkle injection Botox, Anti-Wrinkle Treatments (Botox), Bocouture (Botox), Botox, Botulin Toxin.

The data presented only include only the treatments offered where both price and quantity (mL) were available (Tables 4 and 5, Figure 3). If quantity was not available, the assumption of 0.5 mL per area was used. The overall average cost per mL of Botulinum Toxin was £284.45.

3.3 | Compliance with ASA/CAP

A total of 206 out of the 233 clinics were sampled and of these, it was found that 88% were in direct infringement of the enforcement notice through advertising a prescription medicine. Excluding

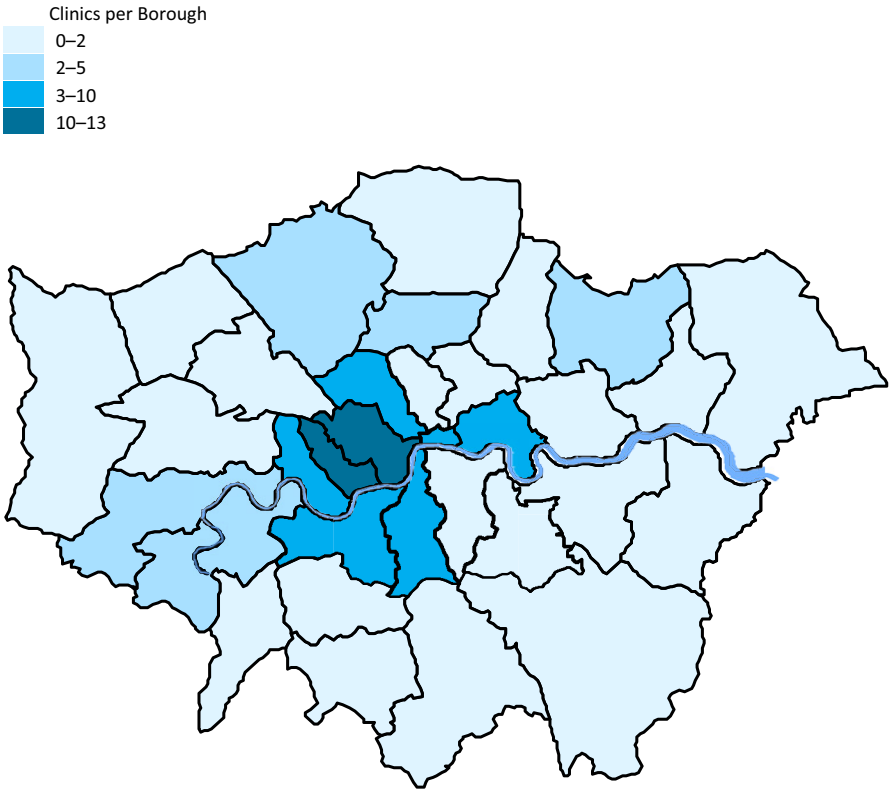

FIGURE 1 Heatmap of clinics per Greater London borough.

those who likely attempted to circumvent the regulation by using anti-wrinkle, a total of 142 clinics (61%) directly used the terms Botulinum Toxin and its various brand names.

4 | DISCUSSION

This is the first paper to perform a cross-sectional analysis of a major city and specific to the UK, assess compliance with the ASA/CAP regulations. The selection of a major city such as London was deliberate to represent an urban center. Furthermore, with a population of 8.92 million this provides valuable insights into the behaviors of a densely populated center.[13]

Within this study, the most significant and concerning finding was the lack of compliance with the ASA/CAP regulations - promotion. The authors initially considered that these data may be an aberrant snapshot due to the nature with which it was collected at a single point in time, so a post hoc analysis of 50 randomly selected websites was reviewed in December 2022, and without exception, the websites continued to advertise prescription-only medicines in the sample taken. This suggests that the monitoring technology is either not currently functioning or that the websites have evaded detection. Furthermore, given the scale of the market and its continued growth, this presents a significant challenge in being able to regulate. Issuing approximately 88% of practitioners with warnings and sanctions would be both resource intensive and challenging on a practical level.

Concerns have been raised regarding the safety profile and the public health implications of the cosmetic injectables market with the UK government looking to regulate the market through consideration of licensing schemes.[14] Consideration should be given to how to ensure regulations are adhered to, as it appears despite the presence of regulations pertaining to advertising, these are being flaunted. Another example within this industry of structures being in place yet not adhered to are the Yellow Card Scheme from the MHRA relating to complications. Given that Botulinum Toxin is a prescription-only medicine, all those who note or identify complications arising from using Botulinum Toxin are advised to report these complications to the MHRA via the Yellow Cards. This group has already described how it is very likely that there is significant underreporting of complications to the MHRA.[15,16] This suggests that clear guidance and transparency are needed to demonstrate effective legislative oversight and adherence to robust regulations.

The findings of cost differentials across the different regions are interesting to note – relating to price. It is important to consider the variables which may influence price particularly from a cost-plus pricing model. The cost-plus pricing model stipulates that overall cost is the unit cost plus desired profit. The geographical difference in rental costs will likely play a role in influencing the unit cost in addition to the influence of other overheads and business rates which are charged differently according to the different borough councils. Furthermore, we have previously described the role of price as a signal for quality and this may be a further consideration applied. Of note is the fact that the borough density of clinics map did not align

TABLE 2 Average cost of dermal filler per mL per region/borough.

Region/Borough	Average cost of filler per mL (£)
Richmond upon Thames	457.10
Cobham and Downside	432.50
Warlingham	379.55
Epping Forest	379.50
Kensington and Chelsea	365.21
City of London	364.42
Lambeth	362.02
Westminster	360.29
Hackney	360.00
Wandsworth	350.00
Redbridge	341.25
Surbiton	316.67
Hammersmith and Fulham	307.93
Ealing	300.00
Tower Hamlets	294.61
Haringey	288.56
Hillingdon	285.00
Hounslow	259.04
Colchester	257.92
Barnet	252.02
Southwark	250.00
Worthing	241.55
Guildford	216.67
Thornton Heath	211.67
Kingston upon Thames	180.00
Bromley	169.44
Surrey	145.00
Average overall	330.89

TABLE 3 A one-way ANOVA test was performed on data where cost per mL of dermal filler was available and demonstrated significance in the variance of market price between regions/boroughs in and around Greater London.

ANOVA						
Source of variation	**SS**	**df**	**MS**	***F***	***p*-Value**	***F* crit**
Between groups	1348264.96	26	51856.3447	4.14049067	3.2523E-10	1.52531102
Within groups	4684051.84	374	12524.2028			
Total	6032316.8	400				

FIGURE 2 Average cost of dermal filler per mL per borough.

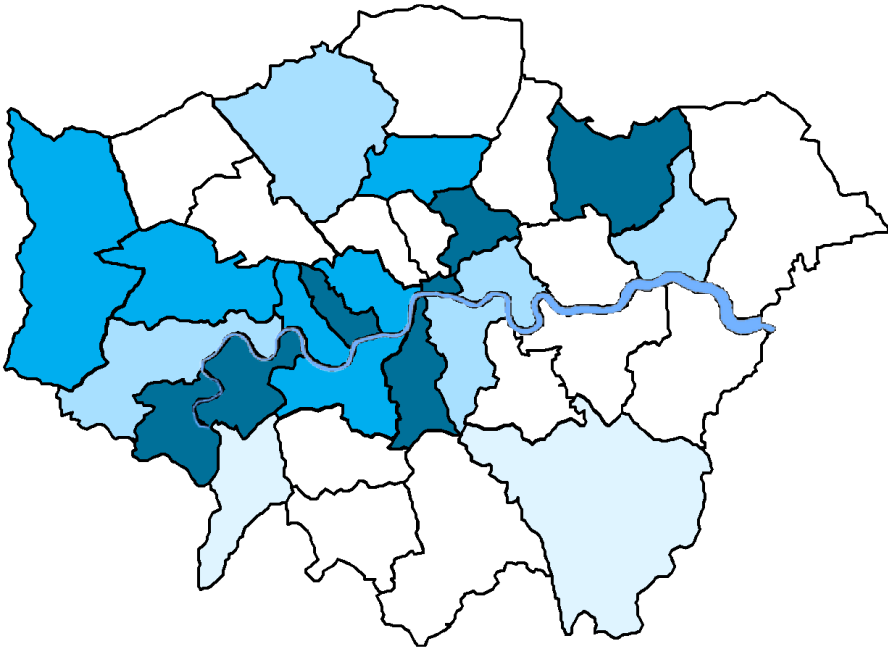

TABLE 4 Average cost of Botulinum Toxin per mL per region/borough

Region/Borough	Average of cost Botulinum Toxin per mL (£)
Camden	365.42
Hackney	364.44
Lambeth	357.37
Guildford	317.50
Basildon	317.22
Richmond upon Thames	306.67
City of London	300.98
Westminster	296.97
Surbiton	294.44
Kensington and Chelsea	288.33
Epping Forest	274.17
Redbridge	270.42
Tower Hamlets	268.06
Hillingdon	265.56
Wandsworth	263.63
Hammersmith and Fulham	259.63
Hounslow	252.83
Worthing	250.56
Haringey	248.33
Surrey	222.22
Barnet	218.33
Kingston upon Thames	206.67
Bromley	200.00
Brent	177.78
Ealing	158.22
Grand total	284.45

exactly with the costs. This suggests that while there appears to be a 'location premium' whereby central, more expensive areas attract a higher cost per mL, some of the most expensive areas were around the peripheries. This would support a likely 'convenience premium' where despite being cheaper in terms of rent, a lack of competition in the region enables the practitioners to charge a higher rate. It is important to note, however, that these findings are limited by both the methodology and the lack of representation of all London boroughs so may be subject to bias. Further future analysis may find uniformity across London and that these outlier values are accounted for by the need to justify higher marketing budgets.

However, within the limitations of the methodology, a striking finding of this cross-sectional analysis was the proportion of clinics located in the London Borough of Westminster – 'place' analysis. A notable proportion of these clinics was located in and around Harley Street. The density of clinics decreased the further out from the center one

TABLE 5 A one-way ANOVA test was performed on data where cost per mL of Botulinum Toxin was available however no significance ($p = 0.058$) was demonstrated in the variance of market price between boroughs/regions.

Source of variation	SS	df	MS	*F*	*p*-Value	*F* crit
Between groups	368257.094	24	15344.0456	1.52785418	0.0589155	1.56155284
Within groups	2480589.65	247	10042.8731			
Total	2848846.74	271				

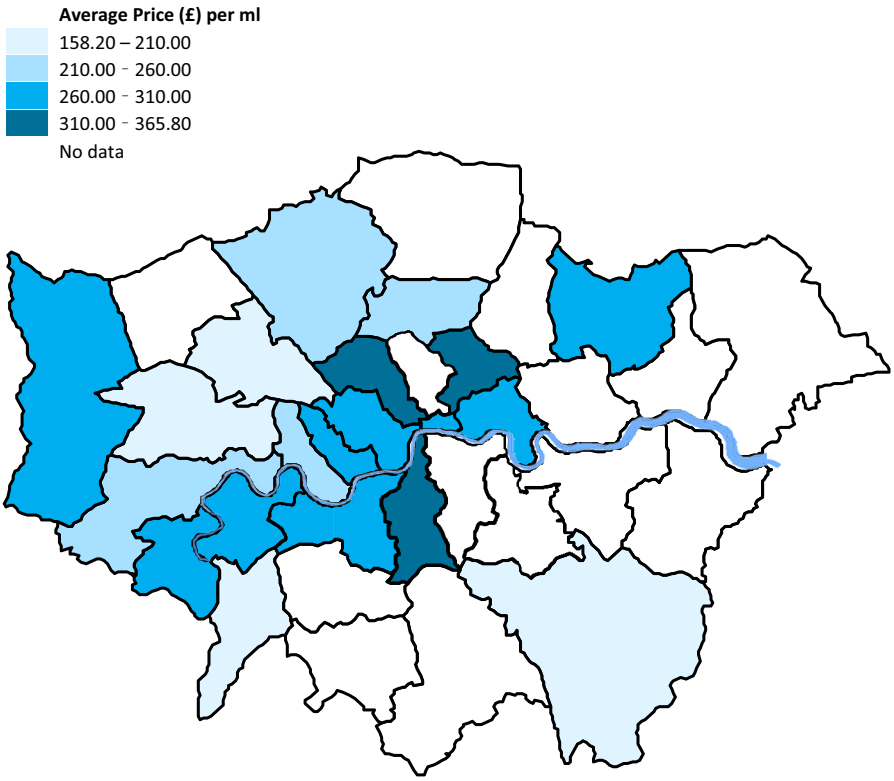

FIGURE 3 Average cost of Botulinum Toxin per mL per borough.

moved. This finding is in keeping with the previously discussed marketing signal of competence and excellence in proximity to Harley Street.[6] Whether this signal truly translates to quality needs future study. Further analysis may find that some inexperienced/under-qualified individuals look to leverage this prime location for their own gain.

4.1 | Limitations

As stated above, it is important to note that the findings of this should be interpreted within the context of the methodology. Given that certain London boroughs were not represented in the sample analyzed, this has implications for the cost per mL attributed to the boroughs. The methodology also does not account for the distribution of the costs, particularly in the regions densely populated with clinics. However, this would be impractical given the limited representation of boroughs with a few clinics. Other elements which were not captured include the quality and size of the premises, nor the experience and qualifications of the practitioners, duration of trading, nor rankings of the most expensive boroughs. It is also important to note that the data will be skewed toward clinics with likely higher marketing budgets that can afford to optimize their websites to gain greater prominence on search engines through search engine optimization (SEO).

Despite these limitations, the choice of methodology was deliberate to closely simulate the search strings patients would use. The findings provide novel insights into the mechanics of the cosmetic business in London, particularly in relation to non-compliance with ASA/CAP guidelines.

5 | CONCLUSION

This paper demonstrates poor compliance with ASA/CAP guidelines with unique insights into the industry mechanics associated with aesthetic injectables in the UK's capital city and regional pricing variances. Advertising prescription-only medication may pose a potential risk to patients and will be an important consideration in proposed legislation to introduce licensing to the industry.

AUTHOR CONTRIBUTIONS

All authors have read and approved the final version of the manuscript. DZ, AZ, and SS performed the research. DZ, AW, JD, TW, and AM designed the study. AM, AW, TW, and JD provided key insight and guidance. DZ, AZ, and SS performed the analysis.

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CONFLICT OF INTEREST STATEMENT

All authors have completed the Unified Competing Interest form (available on request from the corresponding author) and declare: no support from any other organization for the submitted work; the research presented was sponsored by QUAD A – see below, no other relationships or activities that could appear to have influenced the submitted work

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are openly available on the search engine Google, with the search strings provided in the body of the text.

ETHICS STATEMENT

The authors confirm that the ethical policies of the journal, as noted on the journal's author guidelines page, have been adhered to. No ethical approval was required as this is a review article with no original research data.

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