



Profiling UK injectable aesthetic practitioners: A national cohort analysis

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Summary *Introduction:* The United Kingdom (UK) injectables market has been growing rapidly with a lack of robust regulation and to date, no information regarding the profile of practitioners has been published.

Aim: We aim to provide a descriptive and qualitative analysis of the advertised practitioners in the United Kingdom.

Methods: We performed a systematic search using the internet search engine Google to perform a qualitative descriptive analysis of aesthetic practitioners in the UK. For each contiguous country in the UK: England, Scotland, and Wales, five searches were performed. The list of practitioners was then cross-referenced with professional regulatory bodies, with extraction of registration number, date of registration and presence or absence from the Specialist Register or General Practitioner Register.

Results: 3000 websites were visited and evaluated. 1224 independent clinics with 4405 practitioners were identified. 738 were identified as those in business support functions and the remaining 3667 practitioners were undertaking injectable practice. The profile of professions were doctors 32%, nurses 13%, dentists 24% and dental nurses 8%. Of the 1163 doctors identified 481 were on the specialist register (41%) and 219 were on the GP register (19%). 27 specialties were represented in this cohort analysis. Plastic Surgery formed the majority of those who were on the specialist register at 37%, followed by Dermatology at 18%.

Conclusion: This paper is the first to describe the range of practitioners, their professional backgrounds and experience who perform non-surgical aesthetic interventions. The range of

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backgrounds may have an impact on the potential risks to patients and will be an important consideration in proposed legislation to introduce licensing to the industry.

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The United Kingdom (UK) injectables market has been growing rapidly¹ with an estimated Compound Annual Growth Rate of 3.6% and a projected value of £11.7 billion by 2026. The provision of Botulinum Toxin and Dermal Fillers has increased in both availability and popularity. With a greater range of interventions being made available for novel indications, the scope of aesthetic injectables is being redefined. However, little is known regarding the practitioners administering this treatment, their background qualifications, training, experience levels and in cases of complications, avenues for redress and the untold burden of morbidity to patients.

The lack of formal, robust regulation has led to the UK Government seeking to evaluate methods of regulating the industry.² The challenge such interventions pose relates to the lack of clarity and transparency within the industry, given there is no formal appointed body to oversee the appropriate and safe administration of injectables. This is underpinned by the current legislative interpretation of the 1983 Medical Act, and it is likely that further clarity will need to be established to define the specific act of a medical service, specifically, whether the administration of aesthetic interventions using prescription medication can be deemed as such.³ In 2022, the government discussed The Health & Care Bill which would include introducing a mandatory licensing regime for Botulinum Toxin and Dermal Filler providers in the UK.

Alongside the proliferation of both availability of the product, and practitioners of aesthetic interventions, access has simultaneously increased through the increasing prominence of the internet. Widely regarded as the single largest database ever created, the world wide web has become a key source of medical information for patients globally.⁴ This presents a great opportunity and risk, as democratising medical information can be empowering, it may also go unchecked and unverified. Furthermore, studies have demonstrated 70% of individuals use the internet to seek out information related to cosmetic interventions.⁵

With billions of daily enquiries, Google (Google, Inc., Mountain View, Calif.) has become a new hub of research information, with user behaviour being evaluated to better understand societal and social activity.⁶ As a source of big data, we can look to recreate patterns of search activity and search strings to help simulate patient searches and simulate the types of findings and results patients may see. Given that there is no single register of practitioners of aesthetic interventions, as stated above, our understanding of the practitioners is limited. Through using the Google search engine, we aim to provide a descriptive and qualitative analysis of the advertised practitioners in the United Kingdom. This is the first study to evaluate the qualifications, registration, and experience of injectable aesthetic practitioners in the UK.

Methods

Between June and December 2022, we performed a systematic search using the internet search engine Google to perform a qualitative descriptive analysis of aesthetic practitioners in the UK using an adaption of a validated methodology previously described.⁷ In constructing the search strings, we looked to replicate as closely as possible the types of searches the public undertake when searching for practitioners. For each contiguous country in the UK: England, Scotland, and Wales, five searches were performed¹ [country] botox,² [country] botulinum toxin,³ [country] anti wrinkle injection,⁴ [country] filler,⁵ [country] dermal filler. Websites were systematically reviewed and those which met the inclusion/exclusion criteria of each search string, were visited, and the addresses/location and list of practitioners were obtained. The list of practitioners was then cross referenced with professional regulatory bodies, where applicable - specifically including: the General Medical Council (GMC), General Dental Council (GDC), General Pharmaceutical Council (GPhC) and the Nursing and Midwifery Council (NMC). Upon being cross-referenced, information such as registration number, date of registration and presence or absence from the Specialist Register (GMC) or General Practitioner Register (GMC). Additional information was also obtained relating to any outstanding professional body concerns, conditions or hearings.

Inclusion criteria included websites relating to services in the UK, offering specifically injectable interventions either with botulinum toxin or dermal fillers. Exclusion criteria included any non-injectable intervention. There were four independent reviewers, two reviewers for practitioner inclusion and extraction, and a further two reviewers for professional body cross-referencing. Any disagreements were to be resolved by the supervising author. Kappa score for practitioner evaluation and inclusion was 1.

Results

A total of 3000 websites were visited and evaluated. After removal of duplicates, a total of 1224 independent clinics were identified. Of these clinics, a total of 4405 practitioners were identified. A total of 738 were identified as those in business support functions which was defined as receptionist, management, social media support, patient care coordinator, and other similar support roles. The remaining 3667 practitioners were identified as those undertaking injectable practice. Table 1 demonstrates the total number of professionals and the overall proportions of the total.

Table 1 Breakdown of practitioner profile by professional background.

Doctor	1163	32%
Dentist	877	24%
Nurse	470	13%
Aesthetician	433	12%
Dental Nurse	310	8%
Allied Healthcare Professionals	307	8%
Trainee Dental Nurse	77	2%
Pharmacist	30	1%

Doctors formed the majority of practitioners at 32%. Dentists and dental nurses formed 24% and 8% respectively, and of note, there were a notable number of trainee dental nurses who were listed as practitioners - 2%.

A total of 2625 practitioners had professional registration with either the GMC, GDC, NMC or GPhC, and Figure 1 demonstrates the mode was 181 practitioners (approximately 7%) who were registered in 2008 equating to 14 years of professional registration.

Of the 1163 doctors identified, a total of 481 were on the specialist register and 219 were on the GP register (Table 2). This leaves a total of 463 doctors (40%) not on the specialist or GP register. A total of 27 specialties were represented in this cohort analysis. Plastic Surgery formed the majority of those who were on the specialist register at 37% and dermatologists second on 18%.

With regard to distribution of practitioners within clinics, Table 3 demonstrates the breakdown of single-type practitioner-run clinics. The most common type of clinic was the doctor only-run clinic which accounted for 251 clinics, with nurse-run clinics the second most common accounting for 121 clinics.

The remaining independent clinics were run by professionals from multiple disciplines, with Table 4 illustrating the mean practitioner breakdown across these clinics.

Table 2 Specialist or general practitioner register membership for doctors identified in cohort.

GP	219	31.29%
Plastic Surgery	179	25.57%
Dermatology	84	12.00%
General Surgery	68	9.71%
Otolaryngology	25	3.57%
Anaesthetics	23	3.29%
Oral and Maxillo Facial Surgery	20	2.86%
Ophthalmology	16	2.29%
Obstetrics and Gynaecology	14	2.00%
Trauma and Orthopaedics	7	1.00%
Radiology	6	0.86%
Internal Medicine	6	0.86%
Emergency Medicine	4	0.57%
Urology	3	0.43%
Breast	3	0.43%
Psychiatry	3	0.43%
Paediatrics	2	0.29%
Public Health	2	0.29%
Cardiothoracic Surgery	2	0.29%
Palliative Care	2	0.29%
Neurosurgery	2	0.29%
Genito-Urinary Medicine	2	0.29%
Paediatric Surgery	2	0.29%
Endocrinology	2	0.29%
Histopathology	1	0.14%
Medical Oncology	1	0.14%
Neurology	1	0.14%
Nuclear Medicine	1	0.14%

Discussion

This is the first paper in the UK to evaluate the background, experience and qualifications of practitioners in the cosmetic injectables industry. The significance of understanding this

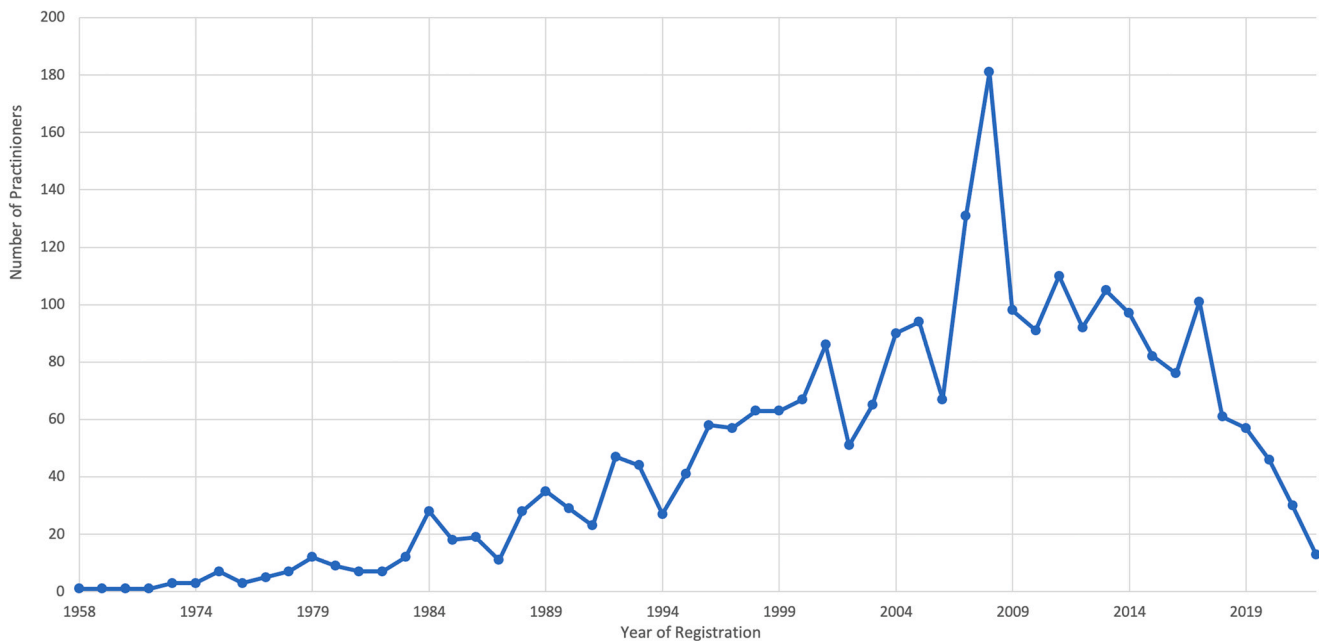


Figure 1 Year of registration with professional bodies.

Table 3 Individual profession-run clinics.

Profession	Number of Clinics
Doctor	251
Nurse	121
Dentist	56
Aesthetician	43
Pharmacist	8
AHP	5
Other	2
Dental Nurse	1
Grand Total	487

Table 4 Multidisciplinary clinics average practitioner breakdown.

Dentist	4.2
Dental Nurse	3.9
Doctor	3.4
Aesthetician	2.3
Trainee dental nurse	2.2
Nurse	2.0
AHP	1.9
Pharmacist	1.4
Total	2.8

data and the distribution of professional backgrounds is key to determining the next steps in regulating the market. The lack of robust regulations has led to concerns being raised regarding the safety of the industry and potential risks to patients. The range of risks vary from mild and transient such as bruising and swelling, to permanent and debilitating such as blindness and vascular occlusion.⁸ These physical complications do not reflect the psychological, emotional and financial consequences patients may have to bear.

In order to fully understand the risks, we need to understand who is administering the interventions on a granular level - specifically looking to understand: their training qualifications and background, marketing, what they are administering as several interventions remain off licence, pricing, process of gaining informed consent, follow-up, provision for complications, how they are administering the intervention and what avenues for redress/follow-up exist. Each of these elements is challenging given the dearth of evidence and information available, as well as the multiple dimensions for marketing and relative ease of setting up clinics.

The challenge with identifying risks to patients could be a function of the mechanisms designed to capture them. Currently, any complications related to Botulinum Toxin, should be reported to the Medicines Health Regulatory Agency (MHRA) as they are responsible for capturing complications related to prescription medications. However, our group has already identified that the current system of reporting via the Yellow Card Scheme is likely to be significantly underestimating the complications related to Botulinum Toxin administration.^{9,10} Furthermore, dermal fillers are currently classified as a medical device rather than a medicine by the MHRA and as such do not require formal reporting via the Yellow Card Scheme.¹¹

However, given the focus of this paper is to identify the current range of experience of practitioners, the findings are of particular interest and raise questions as to how best to approach regulating this field.

Cosmetic surgery regulation has been challenging, and in light of the Keogh review, several proposals were made which have yet to be fully actioned.¹² The Royal College of Surgeons has recently launched the Cosmetic Surgery Certification Scheme, which requires specific criteria to be met before a practitioner is listed on their register.¹³ The purpose of certification is to afford credibility and assurance to prospective patients and comes with the assurance of a certain degree of professional standards maintained. The challenge will be determining which practitioners to accredit and on what basis.

In November 2015, Health Education England published 'Qualification requirements for delivery of cosmetic procedures: Non-surgical cosmetic interventions and hair restoration surgery'¹⁴ which identified the suggested requirements for practitioners undertaking non-surgical interventions such as botulinum toxin and dermal fillers. The guidance suggested level 7 accreditation for such interventions, although this recommendation was never mandated by law.

With the imminent public consultation from the UK government, a return to level 7 accreditation is one possible consideration. Another approach may be to enable certain groups who regularly administer neuromodulatory or contour enhancing interventions such as dermatologists, otolaryngologists, oral and maxillofacial, plastic surgeons and similarly qualified specialties to join the register and for others who have demonstrated their competence to be able to obtain another method of obtaining licensure.

This topic is not just restricted to the UK. The Medical Board of Australia is also looking to introduce guidelines for medical professionals and this is due to come into practice in July 2023.¹⁵ The challenge for this intervention is similar to the GMC guidance, the guidance only applies to doctors, and as seen above, other professional backgrounds engage in this practice. These concerns regarding the double standards of regulation add to further concerns of a lack of standardised training and peer review in the sector. These all form elements of a significant public health issue, where no little to no quantifiable data exists.

The insights from the data enable us to see the wide variety of backgrounds and experiences current practitioners have. This will be an important consideration for the forthcoming consultation to consider the impact of licensing on the various stakeholders.

Limitations

This data provides a snapshot and a very useful insight into the distribution of background qualifications and experiences, in an otherwise undescribed field. The data is not exhaustive, despite the systematic approach and has limitations in how it has been obtained. In addition, some of the data pulled from independent clinic websites relies on specific clinics' reporting of role, qualification and background which are inherently subject to recall and reporter

bias. Whilst novel research methodologies are important to embrace, we must be careful and consider the limitations of employing Google. The position of Google searches is dynamic, and given the commercial considerations of appearing higher on a search, marketing efforts are made to focus on search engine optimisation (SEO). The role of big data analysis has ethical considerations which are important to consider, and these will likely be explored further in future analyses. There is also likely to be an urban bias based on the methods used. Furthermore, this study only analysed 3 countries of the UK, and data from Northern Ireland will be important to evaluate.

Conclusion

This paper is the first to describe the range of practitioners, their professional backgrounds and experience who perform non-surgical aesthetic interventions. The range of backgrounds may have an impact on the potential risks to patients and will be an important consideration in proposed legislation to introduce licensing to the industry.

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Ethical approval

Not required.

Declaration of Competing Interest

All authors have completed the Unified Competing Interest form (available on request from the corresponding author) and declare: no support from any other organisation 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.

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