

# Prescribing, Supplying, and Administering Medicines. A Contemporary Review of Podiatric Surgery in the United Kingdom

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## Research

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# Abstract

**Background.** In the United Kingdom (UK) podiatrists are able to access 'prescription only' medicines via a specific but narrow range of legally mandated mechanisms. Data on access is also recorded by many podiatrists, especially podiatric surgeons, via a tailored data base developed within the College of Podiatry, known as PASCOM 10.

**Methods.** The PASCOM 10 system was accessed to generate reports for the 2019 calendar year relating to podiatric surgery. The following reports were requested; Procedures, Fixations, Anaesthesia, Demographics, Medications, Post Treatment Sequelae, Patient Satisfaction (PSQ-10), Manchester Oxford Foot/Ankle Questionnaire (MOXFQ), Providers, and Referrals.

**Results.** In 2019 there were 11,189 admissions for podiatric surgery in England recorded on the PASCOM 10 database. 103 surgery centres contributed data resulting in 18,497 procedures. Care was primarily offered in NHS settings accounting for 91% of activity, 94% of these procedures were performed under a local anaesthetic block. 18,576 medicines were supplied, administered, or prescribed from a list of 70 individual items. 29% of all medicines were prescribed by a podiatrist. Controlled drugs (CD) accounted for 28.7 percent of all recorded medicines.

**Conclusions.** Using the PASCOM 10 database, it has been possible to identify an emerging trend in the methods of access to POM medicines by podiatrists, which appears to signal a shift in favour of independent prescribing and with that, a need for better access to controlled drugs to manage acute post-operative pain.

## Background

The development of podiatric surgery in England would not have been possible without first securing access to medicines and within that perhaps the most important class of medicines was local anaesthetics (1,2). Access to local anaesthetics allowed for the safe development of pain free skin and nail surgery procedures but surgical techniques soon evolved and with that the requirement for greater access to medicines. More advanced surgical techniques brought with them a need for post-operative analgesia, pre-operative antibiotic prophylaxis and perioperative thromboprophylaxis to name a few. There was then in the latter part of the 20<sup>th</sup> century a pressing need to improve access to medicines.

'Prescription only' medicines form one of three distinct categories of medicine in the UK, reflecting the relative risk assigned to their use (roughly equivalent to schedule 4 drugs in Australia) (3). Designated as such within the terms of the Medicines Act (1968), prescription only medicines (otherwise known as POMs) were initially intended to be issued by a very limited number of "approved prescriber" professions, notably doctors, dentists and vets (4). At the time, nurses or allied health professionals were not considered potential prescribers. In the years since, it has become clear that advances in scope of practice and requirements in educational qualifications amongst these professions have shifted significantly (5). In addition, the demographic changes in Western societies have dramatically increased

the need for flexible healthcare delivery, and this has led to a drive towards workforce redesign (6) . In short, this has translated into a series of health policy initiatives aimed at upskilling existing healthcare staff and reducing role boundaries between professions, in order to create a more responsive and adaptable workforce able to meet the challenge(7).

One key facet of these policies has been to empower allied health professionals and nurses with greater access to prescription only medicines(8). This has tended to occur gradually, over a period of decades, eventually culminating in the arrival of prescribing rights. For the UK podiatry profession, the first legal access to POM medicines was granted in 1980 for four local anaesthetic medicines (4). Independent prescribing rights finally arrived in 2013(9). A not dissimilar picture emerged in Australia, over roughly the same timeframe (4,10). In between, there have been various legal mechanisms made available to podiatrists to allow them degrees of access to POM medicines, each falling short of full rights to access required medicines.

Today, these mechanisms include 'exemptions' (short lists of POM medicines approved for a specific profession – in the case of podiatry, two lists, one for sale / supply, one for administration); patient group directions (allowing a named podiatrist to supply a specified POM medicine to a specified 'group' of patients); and the two varieties of prescribing: independent and supplementary. With the exception of PGDs, each require a separate educational basis, with acknowledgement of entitlement assigned through the use of 'annotations' to the official register of the regulatory authority, the Health and Care Professions Council. Indeed, the regulatory body now provides monthly updates on the statistics relevant to registrants' access rights to medicines. November 2020 figures suggest that there are 12,524 current registrant podiatrists, of whom 10,246 are annotated for the 'exemption' list of medicines (administration only), 6164 for the 'exemption' supply list, 445 as independent prescribers and 512 as supplementary prescribers (11). However, the drawback of this list is that it can only tell you how many podiatrists are eligible to use these medicines. It does not tell you how many actually use them in practice.

Use of POM medicines is, arguably, now a keystone to modern practice. Effective treatments provided in a single episode of care clearly prevents delays to patient care and reduces duplication of services – key requirements of contemporary healthcare practice across the Western world. The onus is therefore on skilled practitioners to maximise their use of these treatments to provide high quality, timely and effective care. Failure to do so raises questions around ethical practice and professional responsibility.

If this issue is so important, then it is surely incumbent on the profession itself to find an effective way to collect data which will highlight and emphasise its contribution to effective care. Is there a role for the professional body to fill this void and provide a means of collecting this vital data?

PASCOM 10 is a proprietary audit system developed by the College of Podiatry to support podiatrists in undertaking simple quality assurance audits (12). The system has its roots in a university project intended to measure outcomes of podiatric surgery (13). The idea was then developed into the Podiatric Audit of Surgery and Clinical Outcomes (PASCOM) by a small team of podiatric surgeons. In the late 1990s most podiatric surgery services sat within Community NHS Trusts which often lacked the IT

infrastructure to accurately record clinical activity, leading podiatric surgeons to create their own bespoke solution(14). Over time PASCOM has evolved into an online record system accompanied by relevant satisfaction questionnaires and patient reported outcomes. Originally developed by podiatric surgeons, the system has since 2012 been available to all members of the College of Podiatry. It is though fair to acknowledge that the vast majority of data entry is still undertaken by those practicing podiatric surgery whilst uptake of the system has remained persistently low outside of podiatric surgery. It continues to be the database of choice for 80.6% of podiatric surgeons, but notably not all contribute. Nor is it mandatory, or likely to be so in future.

Currently medicines data can only be collected for invasive treatments which are defined as, injection therapies, nail surgery and podiatric surgery. Anonymous data can be uploaded to PASCOM 10 relating to patient demographics, diagnoses, treatments, medicines, and a range of clinical or patient reported outcomes. As of the time of writing (20/01/2021 at 12.00) podiatrists have recorded a total of 141,234 patients and 146,270 episodes of care on the PASCOM 10 website. Once data has been input, the system allows users to run various reports of their activity. At a national level, reporters appointed by the College of Podiatry can extract anonymous data for all users and it is this national data which will form the basis of the following discussion. All members of the College of Podiatry have free access to the PASCOM 10 system, which can be accessed following an online training and registration process. Users enter data into bespoke web forms relating to many elements of a patient's treatment journey.

## Methods

A primary outcome for the current study was to gain a greater understanding of the methods utilised by podiatric surgeons to access medicines in the United Kingdom. Within that it is also relevant to establish the range and quantity of medicines utilised to support patient care, specifically in the context of those patients attending for foot surgery procedures. With the advent of independent prescribing the authors were keen to identify whether prescribing was being adopted by the profession and whether alternate means of accessing medicines, such as PGDs or exemptions remain relevant in clinical practice.

PASCOM is organised into an invasive domain (nail surgery, injection therapies and podiatric surgery) and a non-invasive domain (High risk, musculoskeletal and general podiatry). Within these domains' information is curated in episodes of care which themselves are made up of multiple events, each of which is date and time stamped. These events include patient demographics (date of birth, gender) and referral source, a consultation event which captures ICD-10 diagnostic information. The treatment event records the provider location, procedure type, medical devices, medicines, anaesthesia type, ASA grade and details of clinician involvement. Other events relate to clinical investigations, injection therapies and post treatment events. The latter allows for the collection of a pre-defined list of post-operative complications. The remaining events capture outcome data in the form of the Manchester Oxford Foot/Ankle Questionnaire(15), the PSQ-10 Patient satisfaction Questionnaire(14) and the NHS Friends and Family test(16). All three of these instruments can be completed via a secure online link accessed by email or alternatively via a paper form which is then manually entered onto the system by a registered

user. The MOXFQ has been extensively validated for use in foot and ankle surgery(15,17,18), whilst the PSQ-10 has been evaluated for reliability(19), though concerns about the questionnaire's sensitivity persist (14,20). It should be noted that to date the PASCOM system itself has not been validated as a database for collecting, storing or analysing this data. Nor has the system been tested for reliability or repeatability with respect to how datasets are input, stored or reported.

Within PASCOM a single patient may have a single episode of care or may have multiple episodes of care, for example when attending for treatment of one foot and then returning for treatment of another problem at a later date, a new episode would be opened for each treatment. Alternatively, a patient may undergo a number of treatments sequentially within a single episode of care such as when surgery is staged.

The PASCOM reporting suite generates reports in a standard HTML webpage format which can be 'printed' as PDFs. Each report details the filtered date range, filters for centres and clinicians, treatment filters, total centres contributing data, total episodes of care included as a result of the above filters and the total number of treatments. The term 'treatments' refers to treatment events which is a surrogate for admissions or day surgeries. For those reports where further interrogation of the data was required, they were exported to Microsoft Excel which allowed for simple sorting and descriptive statistics. A full description of the PASCOM 10 reporting functions is available in the user guide (21).

PASCOM 10 data was extracted by the author (AJM) on 20<sup>th</sup> January 2021 for the calendar year 2019. Owing to the live nature of the database, users may continue to upload retrospective records for 2019. Filters were applied to the PASCOM reporting dashboard to select podiatric surgery activity. Specifically, the reporting process excluded episodes of care where the sole intervention was either nail surgery or injection therapies. These procedures although performed by podiatric surgery teams are also likely to be offered by podiatrists without surgical training. Within the reporting dashboard the following reports were requested; The amalgamated report which includes a pre-set series including Invasive procedures, Invasive Fixations, Invasive Anaesthesia, Invasive Demographics, Invasive Medications, Invasive Post Treatment Sequelae, Invasive PSQ-10, Invasive MOXFQ. Additional reports were run for, Providers, and Referrals. Microsoft Excel format reports were run for, Invasive Medication cohort, Invasive Medicines, and Invasive Procedures.

## Results

Between the 1<sup>st</sup> of January 2019 and the 31<sup>st</sup> of December 2019 There were 11,189 admissions for podiatric surgery in England recorded on the PASCOM 10 database. 103 surgery centres contributed data resulting in 18,497 recorded procedures or approximately 1.6 procedures per patient, the complete report of this activity, as extracted from PASCOM 10 can be accessed in its entirety in appendix 1. Figure 1 summarises the referral sources for this activity; most referrals originated with general practitioners, accounting for 77.4% of all referrals, while direct referral from podiatrists was also important (10.3%). Care was primarily offered in NHS settings accounting for 91% of recorded activity, Figure 2 provides a

summary. Females accounted for 76.3% of all patients with a mean age of 57.8 (s.d. 15.92) while males accounted for 23.7% with a similar mean age of 56.9 years (s.d 17.11).

18,497 surgical procedures were recorded against 320 specific procedure codes. Figure 3 provides a summary overview of the top 20 procedures. This list was achieved by compressing the 320 procedure codes into 79 simplified codes, whereby minor modifications of a standard surgical procedure were grouped together (appendix 2). Over 94 percent of these procedures were performed under a local anaesthetic block ranging from simple infiltrations through to advanced regional nerve blocks. To enable these surgical procedures to go ahead safely 18,576 medicines were supplied, administered, or prescribed from a list of 70 individual items which themselves derived from 15 broad classes of medication (graph 1). Figure 4 summarises the most commonly supplied medicines. Figure 5 details the various methods utilised to access medicine, whilst Figure 6 selects out those medicines defined by the Misuse of Drugs Act 1971 as Controlled Drugs (CD), these medicines account for 28.7 percent of all recorded medicines.

It is possible for errors to occur when inputting information. In the case of medicines, we were able to apply UK law in the form of the human Medicines Regulations 2012 and the Misuse of Drugs Act to determine clear and obvious errors in the recorded method of accessing medicines, where the chosen method is not legally available to podiatrists (Figure 7). This allowed for error checking in three categories, independent prescribing, Exemptions (POM-A and POM-S annotations) and Over the Counter (OTC) or Pharmacy supply. Overall, 11% of records contained an error. The greatest number of errors occurred for independent prescribing at 20.4%. The full dataset can be found in appendix 3.

Post-operative outcome data in the form of satisfaction, patient reported outcomes and surgical complications or sequelae were recorded at 6 months post operation and for completeness this information is included in appendix 1. Of relevance to the current study, 39% of patients described their pain medication as 'excellent' while 55% described 'some discomfort' and 4.3% described their pain medication as 'ineffective'.

## Discussion

Data extracted for the calendar year 2019 provides an indication of what may be happening more widely in podiatry and seems to demonstrate the emergence of an important trend. *Figure 5* suggests that access to POM medicines by those using the PASCOM 10 system is mainly via independent prescribing (29%), with PGDs another popular choice (at 22.7%). Of course, there is a corollary to this apparent trend. Use of PASCOM 10 as a tool for recording such data is undertaken by podiatric surgeons and their teams, for the most part. At the time of the study 82 (80%) podiatric surgeons and their associated podiatry teams were contributing to the system. A total of 356 users were registered and actively contributing to PASCOM 10, but it is unclear how many of these practitioners recorded their medicines data – a system limitation that rolls a fog over the data. Further, it is not known how many of those 356 active PASCOM users are also annotated as independent or supplementary prescribers.

A current concern for the profession is the complex issue of access to controlled drugs (the equivalent of schedule 8 drugs in Australia). Medicines classed as controlled accounted for 28.7% of all medicines recorded on PASCOM 10 in 2019. It is presently at the forefront of activity to extend the legislative rights of podiatrists in the UK. Indeed, the PASCOM 10 data indicates that a total of 797 medicines were requested from a general medical practitioner (GP); it is interesting to note that over half of these requests (56.3%) were for controlled drugs. Though access to medicines has greatly improved, podiatrists still find they are limited in their ability to manage pain pharmacologically. This is not a minor point to be dismissed; podiatric surgery satisfaction data reveals that 4.3% of patients felt their pain relief after surgery was inadequate while 55% experienced some discomfort (22). Clearly there is room for improvement in pain management. Yet for the most part independent prescribing has not proved helpful in this regard, with prescribers instead turning back to their exemptions list medications or perhaps worse, seeking prescriptions from GPs or other medical colleagues such as anaesthetists.

What is of critical importance here is that independent prescriber podiatrists are unable to prescribe every medicine that they may require. Legislation does not always set-in stone rights to access every medicine needed. Things also change. Medicines may be reclassified, being moved from one category of medicine to another, more restricted category, thus altering access rights in the process. Tramadol is one such example. Available to independent prescriber podiatrists as a useful opioid drug for use in the management of pain, it was reclassified in 2014 from a prescription only medicine to a controlled drug 5. Overnight, IP podiatrists no longer had access rights to it. Controlled drugs require Home Office approval and access authority must also be granted under the Misuse of Drugs Act (1971) and its regulations (2001) as well as those of the Medicines Act (1968) via the Human Medicines Regulations (2012). Amendments to the legislation are required to put right the problem inadvertently created by the reclassification of Tramadol.

Currently, a bid to add four further controlled drugs to the list of CDs available to independent prescriber podiatrists is underway, with the public consultation phase recently concluded. It seeks to add Tramadol to the list, thus reinstating its position as part of the repertoire of medicines accessible by IP podiatrists. As the same fate befell gabapentin and pregabalin, they, too, are added to the list in the hope that access will be reinstated. Only morphine sulphate is a novel addition to the list for approval (23). This exemplifies and typifies the problems of limited access to required medicines. Each mechanism is limited in ways which ensure that podiatrists are unable to fully respond to patient needs, and less able to adapt quickly to changing workforce demands.

So has independent prescribing proved to be a saviour, improving access to care at the right time in the right place and reducing the burden on primary care doctors? There are certainly examples of independent prescribing making a difference – better access to antibiotics being an obvious example but while the profession faces continued limitation of access to controlled drugs, inefficiencies in the system will continue and ultimately patient care will be impacted. There is then a well-defined need for expansion of prescribing rights in podiatry and perhaps parity with our nursing colleagues if the original aims of the project are to be met.

In many respects, the profession in the UK and in Australia has perhaps reached a watershed moment. As a prescribing profession – at least among its advanced clinical practitioners – it is arguably justified in asking for its IP status to be exactly that: independent. As a recognised independent prescriber, a podiatrist can make a diagnosis, and decide upon and initiate a management plan (which may include prescription only medicines). It is clearly not helpful to be limited to a rigid, fixed list of POM medicines (via exemptions of PGDs) or controlled drugs (which are themselves prescription only medicines, but with additional safeguards required). If podiatrists are suitably educated, trained and assessed as competent to prescribe, should they not then be granted full authority to access whatever medicine is required?

In theoretical terms, it may be possible to argue that there are vestiges of medical dominance casting shadows over the recognition and legitimacy of non-medical prescribing(24). In addition, Bourdieu described the phenomena of ‘symbolic violence’, a concealed exercise of power designed to deny others legitimacy in the domain over which the dominant group presides (25). Deploying such theory might lead one to suggest that, hidden behind the cloak of legitimate concerns over governance, non-medical prescribing is subtly constrained. Nevertheless, concerns over a burgeoning ‘opioid epidemic’ seem to give credence to a need to limit wider use or at the very least to put in place appropriate safeguards against abuse. Nor is the argument for access easily supported when rare instances of illegal dispensing of controlled drugs by podiatrists arise – to date uniquely in the United States, where access to opioid medication by podiatrists is widely available (26).

PASCOM 10 has been used by podiatric surgeons in various formats for more than 25 years but a number of concerns persist with respect to the validity and reliability of data held within the system. Flaws in the design of the PSQ-10 questionnaire have been highlighted previously, uneven weighting of questions tends to result in clustering which skews towards higher scores or better satisfaction (14). The questionnaires’ ability to reflect all dimensions of patient satisfaction has also been challenged(20). PASCOM 10 is often regarded as a service evaluation tool, and used as such, yet it has been suggested that PASCOM 10 is a poor fit for current models of service evaluation such as Donabedian’s model or Maxwell’s dimensions of quality (20,27,28). PASCOM 10 does though align well with the principles of the SERVQUAL model proposed by Parasuraman et al (29). At a local level PASCOM can yield useful information to support service evaluation but the lack of a mandatory agreed methodology suggests a risk of significant disparity when datasets are reviewed at a national level. In addition to that, despite early attempts to test the PSQ-10 Patient Satisfaction Questionnaire and the inclusion of other validated PROMS, there has to date been no attempt to test the fitness of PASCOM 10 for its intended use. Despite its continued popularity amongst podiatric surgeons there is then a real and urgent need for research to confirm both the validity and reliability of PASCOM 10 as a clinical service evaluation and audit tool.

Registered users are free to enter data into the system as they choose, the system is intended for contemporaneous use but can also be used retrospectively. As such there is likely considerable variance and the risk of inputting error and decision making around what data to include or exclude and when to enter that information. Errors were evident in the current study when comparing recorded methods of accessing medicines against the options legally open to podiatrists in the UK. An error rate of 20.4% for



the independent prescribing route of accessing medicines indicates a training need amongst PASCOM users, and likely a failure of system design.

## Conclusions

The current study by way of PASCOM 10 has demonstrated the medicines accessed by podiatric surgeons to support patient care perioperatively, routes of accessing these medicines have also been identified and with that evidence of need for greater prescribing rights. Of note it appears the management of post-operative pain could be improved with wider access to controlled drugs. This study has also highlighted some concerns with the PASCOM 10 database.

With compelling evidence, a convincing case can be made. In its absence, any argument is weakened (30). So what data is required? More importantly, can the profession provide it? PASCOM 10 was an initial attempt by the professional body in the UK to start a process of gathering evidence that might help to support and justify the case for podiatric surgery. It served that purpose to a limited degree but was not able to extend much beyond a resource of audit-like quality. But it should not be dismissed as valueless – on the contrary, it has the capacity to provide revealing data on podiatric clinical practice that is unique in the UK.

## Declarations

### **Ethics approval and consent to participate.**

The anonymous data accessed for this study is held by the College of Podiatry, AM is in receipt of an authority from the College to act as a reporter to generate reports from national data as required to support College activities. College of Podiatry members who access PASCOM 10 agree to the terms and conditions laid out by the College of Podiatry available at [Information & Resources \(PASCOM 10.com\)](#) and the College of Podiatry privacy statement available at [Privacy \(PASCOM 10.com\)](#). At a local level PASCOM 10 users in the NHS seek governance approval for the purposes of clinical audit and also seek consent from patients to upload PASCOM relevant data. Full details of security arrangements are available in the user guide (21).

### **Consent for Publication**

Not applicable.

### **Availability of data and materials.**

All data referenced within the current study are available either directly within the manuscript or appended as additional files. Further to that PASCOM 10 annual data reports are freely available at [Information & Resources \(PASCOM 10.com\)](#).

### **Competing Interests**

Anthony Maher is a member of the College of Podiatry, PASCOM 10 working Party and has been involved in elements of developing and evaluating the project for 13 years. Anthony Maher is also a clinical lead and Consultant Podiatric Surgeon at Nottinghamshire Healthcare NHS Foundation Trust.

Alan Borthwick OBE is Emeritus Professor at the University of Southampton, a member of Council and Chair of the Medicines and Medical Devices Committee of the College of Podiatry.

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## **Authors' contributions**

AM and AB jointly prepared the manuscript. AM extracted and prepared PASCOM 10 data.

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## **References**

1. Dagnall C. History of the Society 1945-1995. *J Br Podiatr Med Surg*. 1995;50:21–7.
2. Borthwick A. Occupational imperialism at work: the case of podiatric surgery. *Br J Pod*. 2001;4(70–9).
3. Borthwick AM, Short AJ, Nancarrow SA, Boyce R. Non- medical prescribing in Australasia and the UK: The case of podiatry. *J Foot Ankle Res*. 2010;
4. Borthwick A. Professions allied to medicine and prescribing. In: Nolan P, Bradley E, editors. *Non-Medical Prescribing - Multi-disciplinary Perspectives*. Cambridge; 2008. p. 133–64.
5. Borthwick AM, Maher AJ. Podiatry and Medicines. *Pod Now*. 2020;23(10):21–8.
6. Cameron A, Masterson A. Reconfiguring the Clinical Workforce. In: Davies C, editor. *The Future Health Workforce*. Basingstoke: Palgrave Macmillan; 2003. p. 68–86.
7. King O, Nancarrow S, Grace S, Borthwick A. Interprofessional role boundaries in diabetes education in Australia. *Heal Sociol Rev*. 2019;
8. Borthwick AM. Medicines in Podiatry: Access, Supply, Administration and Prescribing. In: Hayes C, Barbaro-Brown J., editors. *Textbook of Podiatric Medicine*. Keswick: M&K Publishing; 2017. p. 539–51.
9. Borthwick A, Kilmartin TE, Freeman C, Wilson N. Allied Health Prescribing. In: Franklin P, editor. *Non-Medical Prescribing in the UK*. London: Springer; 2017.
10. Gilheany MF, Borthwick AM. Recent developments in podiatric prescribing in the UK and Australia. *Journal of Foot and Ankle Research*. 2009.

11. HCPC. Registrant Snapshot. 3rd November 2020 [Internet]. 2020 [cited 2020 Dec 21]. Available from: <https://www.hcpc-uk.org/about-us/insights-and-data/the-register/registrant-snapshot—3-november-2020/>.
12. College of Podiatry. PASCOM 10 - The Podiatry Audit Tool [Internet]. 2020 [cited 2020 Apr 15]. Available from: <http://www.PASCOM 10.com/>
13. Tollafield DR, Parmer DG. Setting standards for day care foot surgery . A quinquennial review . Part I. Br J Podiatr Med Surg. 1994;6(1):7–20.
14. Rudge G, Tollafield D. A critical assessment of a new evaluation tool for podiatric surgical outcome analysis. Br J Pod. 2003;6(4):109–19.
15. Dawson J, Coffey J, Doll H, Lavis G, Cooke P, Herron M, et al. A patient-based questionnaire to assess outcomes of foot surgery: Validation in the context of surgery for hallux valgus. Qual Life Res. 2006;15(7):1211–22.
16. NHS Friends and Family Test [Internet]. [cited 2021 Feb 14]. Available from: <https://www.england.nhs.uk/fft/>
17. Dawson J, Doll H, Coffey J, Jenkinson C, on behalf of the Oxford. Responsiveness and minimally important change for the Manchester-Oxford foot questionnaire (MOXFQ) compared with AOFAS and SF-36 assessments following surgery for hallux valgus. Osteoarthr Cartil. 2007;15(8):918–31.
18. Dawson J, Boller I, Doll H, Lavis G, Sharp R, Cooke P, et al. Minimally important change was estimated for the Manchester-Oxford Foot Questionnaire after foot/ankle surgery. J Clin Epidemiol. 2014;67(6):697–705.
19. Taylor NG, Tollafield DR, Rees S. Does patient satisfaction with foot surgery change over time? Foot. 2008;18(2):68–74.
20. Maher A. Service Evaluation, Outcome Measurement and PASCOM 10. A review of the literature. Pod Now. 2016;19(12):16–20.
21. Maher A. PASCOM 10. Invasive domain User Guide. Version 2.1. August 2018 [Internet]. 2018 [cited 2021 Feb 14]. Available from: <https://www.PASCOM 10.com/documents/PASCOM 10 User Guide v2.1 Aug 2018.pdf>
22. The College of Podiatry. National Data Reports. 2019 [Internet]. 2019 [cited 2020 Dec 21]. Available from: <https://www.PASCOM 10.com/national-reports/PASCOM National Data Report 2019.pdf>.
23. Consultation on proposed amendments to the list of controlled drugs that podiatrists can independently prescribe across the United Kingdom [Internet]. [cited 2021 Feb 14]. Available from: <https://www.england.nhs.uk/wp-content/uploads/2020/10/podiatrist-consultation-summary.pdf>
24. Willis E. Introduction: taking stock of medical dominance. Heal Sociol Rev. 2006;
25. Bourdieu P. Social Space and Symbolic Power. Sociol Theory. 1989;
26. Kelman B. Nashville podiatrist, who gave opioids to “anyone,” to plead guilty in drug dealing case [Internet]. [cited 2020 Dec 21]. Available from:

<https://eu.tennessean.com/story/news/health/2020/02/15/nashville-podiatrist-timothy-abbot-oid-prescriptions-to-plead-guilty-drug-dealing/4754499002/>

27. Donabedian A. Special article: The quality of care: How can it be assessed? JAMA. 1988;260(12):1743–8.
28. Maxwell RJ. Quality assessment in health. Br Med J (Clin Res Ed) [Internet]. 1984;288(6428):1470–2. Available from: <http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=1441041&tool=pmcentrez&rendertype=abstract>
29. Parasuraman A, Zeithaml V, Berry L. A Conceptual Model of Service Quality and its Implications for Future. J Mark. 1985;49(4):41–50.
30. Carey N, Edwards J, Otter S, Gage H, Williams P, Courtenay M, et al. A comparative case study of prescribing and non-prescribing physiotherapists and podiatrists. BMC Health Serv Res. 2020;

## Figures

Referral	Count	Percentage
GP	8447	77.4
Podiatrist	1128	10.3
None or continuation of care	662	6.1
Self	289	2.6
Hospital Consultant	280	2.6
Other Health care professional	103	0.9
Total	10909*	

Data captured once per episode of care

Figure 1

Referral source for podiatric surgery

Provider	Count	Percentage
NHS - Community	5286	47.3
NHS - Hospital	2963	26.5
NHS - Choose and Book	1919	17.2
None	565	5.1
Private insured	306	2.7
Private fee paying	126	1.1
Missing data	24	
<b>Total</b>	<b>11189*</b>	

Data captured once per treatment event.

**Figure 2**

Providers of podiatric surgery

Procedure name	Count	Percentage
Scarf +/-Akins any variant of	3046	16.5
Lesser toe arthrodesis	2023	10.9
Lesser toe arthroplasty	1954	10.6
Tendon procedure (any)	1051	5.7
Neuroma excision	1029	5.6
Lesser metatarsal osteotomy / excision of head	1028	5.6
Cheilectomy	838	4.5
First MTPJ arthrodesis	777	4.2
Fixation removal	680	3.7
Amputation digit Ray / Digit / Part	557	3.0
excision of soft tissue mass	492	2.7
Akin's osteotomy	471	2.5
First MC joint arthrodesis (Lapidus)	461	2.5
Skin surgery (Skin plasty / Flaps / Grafts)	411	2.2
Lesser toe osteotomy	335	1.8
Capsulotomy	333	1.8
Cryosurgery to skin lesion	268	1.4
Kessel Bonney osteotomy of hallux	265	1.4
Nail surgery	242	1.3
Joint replacement	184	1.0

**Figure 3**

Top 20 surgical procedure codes

Name	Count	Percentage
Paracetamol 500mg	3529	19.0
Ibuprofen	3075	16.6
Codeine Phosphate	2416	13.0
Flucloxacillin	1992	10.7
Teicoplanin	982	5.3
Co-codamol 30/500mg	941	5.1
Cefuroxime	636	3.4
Dalteparin	611	3.3
Gentamicin	502	2.7
Co-codamol 8/500mg	471	2.5
Co-dydramol 10/500mg	372	2.0
Dihydrocodeine Tartrate	336	1.8
Enoxaparin	267	1.4
Co-amoxiclav	250	1.3
Bupivacaine	209	1.1
Tinzaparin Sodium	192	1.0
Naproxen	178	1.0
Morphine	161	0.9
Tramadol HCl	152	0.8
Co-codamol 15/500mg	135	0.7

**Figure 4**

Top 20 medicines administered, supplied, or prescribed.

Method of Supply	Count	Percentage
Independent Prescribing	5392	29.0
Patient Group Direction	4210	22.7
Over the counter / pharmacy	3871	21.0
Exemptions	2940	15.8
Anaesthetist Prescribed	952	5.1
GP Prescribed	797	4.3
Other Medical Prescriber	240	1.3
Patient Specific direction	141	0.76
Supplementary Prescribing	21	0.11
<b>Total</b>	<b>18564</b>	

**Figure 5**

Methods of medicine access



Name	Count	Percentage*	Indication	Drug Schedule	POM-S Exemptions	IP	Access via medic
Codeine Phosphate	2416	13.01	Pain	CD5	YES		YES
Co-codamol 30/500mg	941	5.07	Pain	CD5	YES		YES
Co-codamol 8/500mg	471	2.54	Pain	CD5	YES		YES
Co-dydramol 10/500mg	372	2.00	Pain	CD5	YES	YES	YES
Dihydrocodeine Tartrate	336	1.81	Pain	CD5		YES	YES
Morphine	161	0.87	Pain	CD2			YES
Tramadol HCl	152	0.82	Pain	CD3			YES
Co-codamol 15/500mg	135	0.73	Pain	CD5	YES		YES
Diazepam	118	0.64	anxiety	CD4-I		YES	YES
Lorazepam	112	0.60	anxiety	CD4-I		YES	YES
Fentanyl	58	0.31	Anaesthesia	CD2			YES
Gabapentin	20	0.11	Pain	CD3			YES
Pregabalin	19	0.10	Pain	CD3			YES
Temazepam	8	0.04	anxiety	CD3		YES	YES
Buprenorphine	6	0.03	Pain	CD3			YES
Total	5332	28.7					

\*Percentage of all medicines recorded on PASCOM 10

## Figure 6

Controlled drugs accessed to support podiatry treatment.

Method of access	Total	Identified errors	Percentage of total
Exemptions	2940	48	1.63%
Independent Prescribing	5392	1097	20.40%
OTC / Pharmacy	3871	206	5.33%
Totals	12203	1351	11%

**Figure 7**

Assessment of errors in data input.

## Supplementary Files

This is a list of supplementary files associated with this preprint. Click to download.

- [AdditionalFile1.AmalgamatedPASC0M10report2019.pdf](#)
- [AdditionalFile2.CompressedlistofProcedures..docx](#)
- [AdditionalFile3.Medicinesmethodofaccess.xlsx](#)
- [Graph1.jpg](#)