



Condensed PASCOM report



For further information: Royal College of Podiatry, Quartz House, 207 Providence Square, Mill Street, London SE1 2EW Email: contact@rcpod.org.uk



Condensed PASCOM REPORT

The Authority	Royal College of Podiatry, Quartz House, 207 Providence
	Square, Mill Street, London. SE1 2EW
The Supplier	Centre for Biomechanics and Rehabilitation Technologies
	Staffordshire University, Leek Road, Stoke on Trent. ST4 2DF
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Principle Investigator/Project Lead	Dr Helen Branthwaite
Co Investigator	Professor Nachiappan Chockalingam
Research Assistant and Data Analyst	Dr Derek Colley



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Abbreviations

MSK	Musculoskeletal
RCPod	Royal College of Podiatry
NHS	National Health Service
ID	Identification
Diab	Diabetes
Rheum	Rheumatology
MOXFQ	Manchester Oxford Foot Questionnaire
PSQ10	Patient Survey Questionnaire 10
HAV	Hallux Abducto Valgus
ΟΑ	Osteoarthritis
PTTD	Posterior Tibial Tendon Dysfunction
MP	Metatarsal Phalangeal Joint
MC	Metatarsal Cuneiform Joint
VAS	Visual Analogue Scale
SD	Standard Deviation
N	Number



1.0 Project Overview

Two decades ago, the college created a data repository, known as PASCOM-10, aimed at assisting clinicians in documenting and reporting epidemiological, clinical, and environmental data related to podiatric care. This database has developed over the years and currently has multiple features to collate data for podiatric surgery, nail surgery, tissue viability and MSK.

Both audit tools allow clinicians to report and record anonymous incidences of pathology, disease, intervention, and patient outcomes presented in podiatry. The data collected so far within PASCOM-10 amounts to over 160, 000 episodes of care and has been used locally by centres across the country for service audits providing key statements to support service provision. The reporting of such information, however, has only benefited the local Trusts in which it has been acquired and each centre has been responsible for negotiating a localised agreement within their trust around the dissemination of the data and how it is used. In addition to localised usage, reports have been created to communicate within the RCPod membership via publications, promotions and case study articles in "The Podiatrist" magazine.

The legal responsibilities of managing and maintaining these audit tools lie with the RCPod with an active PASCOM-10 working group that collates and shares practice on data collection with other registered members. These include governance on collating data for producing national reports to aid policy development on benchmarking clinical practice. Creating evidence for clinical practice allows for professional reflection to be supported as well as advanced, benefitting the patient with better outcomes as well as the clinician with improved practice. Sharing data sets in the form of national reports and research outputs such as peer-reviewed papers promotes evidence-based practice.



A review and audit of the current database has been completed to filter and analyse the existing data. From this review, key points on incidence of injury, procedures completed and outcomes have been extracted with recommendations on data input and improvements to the software.



2.0 PASCOM-10

2.1 Project Design

Ethical approval was gained through an established committee peer review process at Staffordshire University, to explore the database in a structured manner.

PASCOM-10 can be accessed via **PASCOM 10 - The Podiatry Audit Tool (pascom-10.com)** Registration is required and a training competency is assessed by questionnaire.

The initial part of the review was to explore the validity, integrity and governance of data collected at source whilst using PASCOM-10 from its updated version starting 01/01/2010 to the cut-off date of 01/01/2023. Utilising three measures of integrity; retrievability, traceability and reliability the database was reviewed to evaluate the accuracy of the data. Data input was explored for accuracy and completeness, touchpoints on user and centre information were reviewed and the consistency of outcome measures reported were checked for validity.

Once this was established outputs were explored and extracted to gain information for the following areas,

- Demographics
- Care Pathways
- Clinical Assessment
- Clinical Intervention
- Outcome Measures
- Discharge Summary

This was completed in the domains of invasive and then non-invasive procedures. MSK short form and Friends and Family Centre experiences were excluded due to the limited data set and new

inclusion into the software. Parameters included all valid centres, in all regions of the UK and were run for all patients.

Data were explored in an SQL server (Microsoft 2023) to compare tables and inputs. Exploratory coding was used to raise queries and extract information from separate domains related to each other.

2.2 Current Documentation

The current guidance and documentation, filed on the PASCOM-10 web pages, includes guidance on using the software, coding information for correct input, training videos and annual national data reports. The current version of the user guide, last updated in 2018, was created with the PASCOM working party, a voluntary committee of podiatrists who manage and support the use of the software. To be able to use the software in the NHS or private hospitals must have local governance agreements with managers.

Details of getting a new user started, with directional video content and descriptions of terminology are included, highlighting where errors in data input could occur. This measure of best practice helps to maintain validity in data input improving integrity. Further details are given on the charting, grading and scoring used in the software to categorise patient presentations and outcomes. Outcome measures are also detailed explaining their purpose and how they can be best implemented in patient consultation. Finally, details on reporting are explained with the use of filters with what each data output has included showcasing the relevant data in a report. The guide incorporates user training, but it is necessary to update the training videos to prioritise the comprehension of new users regarding patient confidentiality, anonymous data, and local governance agreements. Data governance remains with the RCPod, being owners of the data. When patient details, including their name and contact information, are entered into the system, the data remains under the responsibility of the respective NHS trust from which it was obtained. To improve integrity and facilitate publication going forward all data should be input with no patient details and coded at source to ensure that there is no identifiable information included.



2.3 Data Input

There are currently 396 registered centres but only 287 remain active. The activity of users can be traced with 1,270 registered users yet only 305 current active contributors to the database. Inactivity is based on a user not logging in for longer than one year. The current list of inactive users ranges from 1 year to 11 years 1 month. This breeches the Royal College of Podiatry GDPR policy where there should be an annual audit of databases to manage and mitigate risks. From the database of inactive users, some have duplicate login details and others that are not included in the main database user figure, indicating some discrepancies in the validity of the user database and access.

2.4 Patient Demographics

At the time of running the analysis, there were 162,318 inputs for patient contacts. From this data set, there were 114,617 anonymous data inputs, of which 194 were invalid due to birth dates being stated in the future or duplicate IDs. Furthermore, age was identified at the initial episode of care, this however was not present in 6517 records. Additionally, screening of inaccurate event dates removed a further 535 records leaving a sample to analyse of **107,371 inputs**.

The most frequent age presentation is between 50-69 years old, with 65-year-olds having the largest representation of foot problems n=2599. (Figure 1).



Figure 1 Age of patient (years) at first presentation represented as the frequency.

Patients' gender is also captured in PASCOM-10 with females twice as likely to be treated than males. Data is mainly from England, with 75,595 females being treated in England and 30,067 males. (Table 1).





	Female	Male
England	75 <i>,</i> 595	30,067
N. Ireland	223	115
Scotland	18	12
Wales	165	70
Other	1053	576

Table 1: Gender counts and geographical locations defined only for male and female data inputs,

 'Other' includes unspecified data inputs.

2.5 Care Pathways

From an initial episode of care to discharge, the patient's journey can be monitored over time. This provides details on how long a patient has been under the care of a podiatrist/podiatric surgeon and what the endpoint of the care has been. Additional features include reporting on the source of the referral and the provision of care, enabling assessment of the type of users of podiatry services. These are presented in Table 2 for both the invasive and non-invasive domains.

Referral source	Invasive	Non-invasive
GP practice (including all staff)	98 875	3172
Other HCPs (including ICATS physio)	3229	412
Orthopaedics	204	34
Consultant (Diab or Rheum)	1816	227
New episode from an old referral	2928	61
Podiatry to podiatric surgery	12598	279
Self (private)	5605	254
Provision of care		
NHS	Community	Community
	70.2%	84.2%
	Hospital 20%	Hospital 7.5%
Private	9.8%	8.3%

Table 2 Referral sources and Provision of care.

Care pathways include a source referral, podiatry action, plan, onward referral and discharge status. All of which are reported in several different ways. The current workflow is not optimised due to limitations in clinical decision-making. It restricts the user to select only one event, whereas, in

practice, multiple clinical decisions may need to be made during a consultation, putting the user in the position of having to choose the most suitable option. There is also the additional complexity of free-form data being included for data capture as there is no suitable option in the decision tree. This has led to the domain logic being breached and the integrity of data retrievability being compromised as multiple additional consultations are created. There is replication of episodes leading to a complex network of pathways that has limited value with failings in a complete combination occurring in many data entries. There is a breach in the integrity of this data as the traceability of the pathways is poorly defined. Consideration to improve the quality and integrity of the data must review the requirements of the user in reporting, as well as the design of the audit tool to limit errors and free-form inputs.

2.6 Clinical Assessment

Data input for each episode is categorised as being either invasive or non-invasive medical and podiatric assessment. The input diagnosis for medical status is coded to the WHO ICD-10 clinical classification codes **International Classification of Diseases (ICD) (who.int)**. Additionally, within each group, there is a subgroup for the episode to be entered as either, Bone and Joint Surgery, Injection, Nail Surgery, MSK, Tissue Viability and General Podiatry. This method of collating subcategory data has led to repetition in diagnosis assessments in each group which should be considered when digesting this information. Table 3 reports only the top 10 Invasive/non-invasive medical diagnoses and podiatric diagnoses for each subgroup, presenting also the percentage representation of the diagnosis in the whole data set.

	Bone Surgery	Injection	Nail Surgery	MSK	Tissue Viability	General Podiatry
Medical Diagnosis		-		-		
None	4754 (19)	14 (19.6)	392 (47)	6 (3)	-	-
Hypertension	2992 (11)	7 (9.8)	62 (7.4)	21 (10.5)	176 (15.8)	-
Disease Respiration	1805 (7.2)	3 (4.2)	55 (6.6)	-	28 (2.52)	-
Disease Digestion	1773 (7)	4 (5.6)	-	-	-	-
Arthrosis	1571 (6.2)	3 (4.2)	-	-	41(3.69)	-
Diabetes Mellitus	1094 (4.3)	7 (9.8)	58 (6.9)	22(11)	311 (27.9)	-
Thyroid	1052 (4.3)	8 (11.2)	18 (2.1)	9 (4.5)	50(4.5)	-
Inflammatory polyarthritis	652 (2.6)	4 (5.6)	-	30(15)	27(2.43)	-
Mental Health	622 (2.6)	-	35 (4.1))	9 (4.5)	-	-
Ischaemic heart disease	419 (1.3)	3 (4.2)	12 (1.4)	-	67 (6.03)	-
Obesity	-	3 (4.2)	-	-	-	-
Skin subcutaneous	-	-	14 (1.6)	-	-	-
Skin infection	-	-	14 (1.6)	-	-	-
Trauma	-	-	-	6(3)	-	-



Connective tissue disorder	-	-	-	10(5)	-	-
Degenerative neurological	-	-	-	7 (3.5)	-	-
Disorder of Nervous system	-	-	-	10(5)	54 (4.86)	-
Arterioles and Capillaries	-	-	-	-	81(7.29)	-
Cerebrovascular disease	-	-	12(1.4)		28(2.52)	-
Percentage representation	65.5%	81.3%	79%	65%	77.9%	-
HAV acquired	18224 (18.2)	18(1.98)	3 (0.04)	69(3.45)	-	20(7)
Digital Deformity	14611(14.6)	-	-	-	16(2.4)	12(4.2)
Hallux rigidus	5709(5.7)	139(15.2)	-	-	-	5(1.75)
Neuroma	3158(3.1)	129(14.19)	-	85(4.25)	-	4(1.4)
Internal Fixation	1469(1.4)	-	-	-	-	-
complication						
Tailors Bunion	1166(1.1)	-	-	-	-	-
HAV with OA	1158(1.1)	-	-	-	-	-
Metatarsalgia	970(0.97)	19 (2.09)	-	49(2.45)	-	-
Midfoot OA	763(0.76)	251(27)	-	101(5.05)	-	-
Ganglion	736(0.75)	10(1.1)	-	-	-	-
Plantar Fascial pain	-	142(15.6)	-	349(17.45)	-	24(8.4)
Synovitis	-	35 (3.85)	-	50(2.5)	-	-
PTTD	-	12(1.32)	-	145(7.25)	-	-
Pes Planus	-	9 (0.9)	-	184(9.2)	-	56(19.6)
Onychocryptosis	-	-	4287 (68.5)	-	-	91(31.85)
Involution Nail	-	-	968(15.4)	-	-	-
Unspecified nail disorder	-	-	217 (3.4)	-	-	-
Other nail disorder	-	-	193(3.0)	-	-	-
Onychogryphosis	-	-	171(2.73)	-	-	-
Onychomycosis	-	-	36(0.5)	-	-	-
Onycholysis	-	-	24 (0.3)	-	-	-
Trauma	-	-	2(0.03)	-	6(0.9)	-
Veruccae	-	-	-	-	-	7(2.45)
Skin Callus/Corn	-	-	2(0.03)	-	12(1.8)	-
Ankle Deformity	-	-	-	53(2.65)	9 (1.35)	6(2.1)
Pes Cavus	-	-	-	-	-	5(1.75)
Achilles tendon	-	-	-	80(4.0)	-	-
Ulceration	-	-	-	-	336(50.4)	-
Osteomyelitis	-	-	-	-	78(11.7)	-
Charcot foot	-	-	-	-	46(6.9)	-
Cellulitis lower limb	-	-	-	-	32(4.8)	-
Cellulitis digit	-	-	-	-	31(4.8)	-
Gouty tophus	-	-	-	-	7(1.05)	-
Percentage representation	47.6%	83.23%	93.9%	55.6%	86.1%	80%

Table 3. Numerical count for the top 10 Invasive/non-invasive medical diagnoses and podiatric diagnoses for each subgroup with percentage representation of that diagnosis in brackets and then the top 10 overall. (HAV = Hallux Abducto Valgus, OA= Osteoarthritis, PTTD = Posterior Tibial tendon dysfunction)

There is a moderate level of complexity observed with an overlap of groupings leading to a broader spread of data. For example, HAV is diagnosed in all but one subcategory, with surgery, injection therapy, nail surgery, MSK and general podiatry all addressing this issue. This condition appears to be the most frequently observed diagnosis across a broad spectrum of practice, providing insightful epidemiology data on the scope of practice seen by members. Patients who present with no medical complaints comprise 19% of the caseload for bone surgery and injections and 47% of the caseload



for nail surgery. This type of information could be considered when commissioning services where the need is defined by a medical condition.

2.7 Clinical Intervention

The intervention provided can be captured when completing an entry. This can be reported for each of the domains and can be written in free form or categorised by defined coding. From coded OPCS codes there were 202 047 inputs for invasive surgical procedures. There were over 447 reported invasive coded procedures completed, Table 4 presents a summary of the most frequent surgical procedures conducted using the OPCS codes.

In addition to the coded data, there was a large set of data that was created from descriptive freehand narratives, with 150 729 invasive inputs, 5354 non-invasive diabetic foot inputs, and 503 MSK data inputs with 34 follow-up entries. This data is difficult to interpret with many permutations of the same procedure recorded with over 10,000 different procedures and over 9000 different permutations of the Scarf and Akin procedure. There are widespread quality issues in the clinical intervention data set with traceability and reliability severely compromised. Having a free-form narrative format included makes categorised interventions difficult to be recorded and nearduplicates exist with many treatments unrecorded. Additional caution for interpretation should be applied to the counts as many interventions overlap due to the format of the recorded entry made at the point of capture. Altering the design of the database for intervention only to be coded would significantly reduce the variability in the data and improve integrity.

OPCS category	Count	Subcategory	Count
1.0 Amputation Hallux	187	1.3 1 st Met Amputation	95
2.0 Amputation Lesser toes	2461	2.1 Distal Phalanx Amputation	1078
		2.3 Digit to met Amputation	814
		2.41 V ray section Amputation	142
		2.42 V ray section Amputation	130
		multiple	
3.0 Basal Osteotomy	80	3.14 Dorsiflex at base of met	44
4.0 Arthrodesis Hallux	1295	4.1 1 st IPj arthrodesis	824
		4.2 1 st MTPJ arthrodesis	5304



5.0 Arthrodesis Lesser toes	2831	5.1 Distal IPj fusion single	1030
		5.2 Proximal IPj fusion single	8414
		5.3 Combined distal and proximal	386
		fusion	
		5.4 Lapidus	3119
		5.41 Arthrodesis met:cuneiform 123	617
6.0 Arthroplasty lesser toe	2355	6.1 Arthroplasty distal IPj	3402
		6.12 Atroplasty distal IPj more than	474
		two toes	
		6.2 Arthroplasty proximal IPj	12098
		6.21 Arthroplasty proximal IPj on both	461
		feet	
		6.22 Arthroplasty proximal IPj more	2181
		than two toes	
		6.4 Stainsby MPJ arthroplasty	677
7.0 Osteotomy 1 st	269	7.1 Cheveron	1060
Metatarsal		7.2 Scarf with akin	16209
		7.21 Scarf rotational with akin	13073
		7.22 Scarf with no akin	724
		7.23 Scarf transpositional	1848
		7.24 Scarf rotational no akin	2256
		7.53 Reverdin-L osteotomy	591
		7.64 Midshaft Scarf rotational with	553
		aitkin	
8.0 Osteotomy Hallux	158	8.1 Akin	4671
		8.11 Hallux wedge base oblique	57
		8.3 Dorsal wedge Bonney-Kessel	2623
9.0 Calcaneal Spur	13	9.2 Retrocalc exostectomy	520
10.0 Capsulotomy Lesser	499	10.1 Single lesser MPJ	68
MPJ			
11.0 Capsulotomy 1 st MPJ	364	11.1 Capsulotomy 1 st MPJ both feet	13
12.0 Capsulotomy Lesser	2216	12.1 Single lesser MPJ	95
MPJ open			
13.0 Lesser metatarsal head	298	13.2 Same foot	63
dorsal exostectomy single			
14.0 Cheilectomy 1 st Ray	4482	14.1 Cheilectomy distal and proximal	263
		Valenti	
		14.2 Cheilectomy dorsal met head	1371
		14.32 Cheilectomy lesser mets	810
		14.5 Medial exostectomy Silvers	1753
16.0 Arthroplasty 1 st Kellers	1816	16.2 Arthroplasty 1 st IPj	122
17.0 Lesser Metatarsals	170	17.1 Weil osteotomy single	3313



		17.11 Weil osteotomy multiple	1081
		17.2 Schweil osteotomy	916
		17.24 Weil with decompression	290
		17.8 Tailors Bunion	610
		17.84 Scarf 5 th Metatarsal	1398
		17.86 Base wedge osteotomy	202
18.0 Combination 1 st met	1	18.2 Midshaft with or without akin	21
with lesser met			
19.0 Injection Joints	1704	19.1 1 st MPJ single	566
		19.12 Lesser MPJ single	357
20.0 Arthrogram MPj	5	20.2 Needling dry injection	198
21.0 Fascia Surgery	100	21.4 Fasciotomy medial heel	317
22.0 Skin incision	2145	22.2 Cautery of skin, veruccae	293
23.0 Neurectomy	2432	23.1 Neuroma dorsal	5925
		23.14 Neuroma double dorsal	688
		23.11 Neuroma plantar	602
24.0 Osteotripsy digital	270	24.1 Phalangeal head of single toe	29
25.0 Osteotripsy bone	78	-	-
reduction			
26.0 Achilles lengthening	59	-	-
open			
27.0 Achilles lengthening	37	-	-
closed			
29.0 Tendon lengthening	1098	29.1 EHL	975
		29.12 EDL and EDB	1318
		29.2 Tenotomy digital flex and ext	2459
		29.5 Tendon Transfer	145
		29.52 Tendon flex to Ext in lesser	604
30.0 Nail Surgery	3631	30.1 PNA with phenol	6208
		30.11 PNA with phenol bilateral	4558
		30.12 PNA two sides different toes	1176
		30.2 TNA with phenol	3692
		30.22 TNA with phenol for 2 toes	570
31.0 Nail Surgery Winograd	1259	31.2 Zadik hallux	283
		31.5 Subungal exostectomy	335
		31.52 Sungungal exostectomy 1 st toe	323
32.0 Skin lesions	577	32.1 Biopsy of subcutaneous tissue	160
		32.2 Excision of small swelling	391
		32.21 Excision of swelling not ganglion	534
33.0 Skin plasty	245	33.12 Z lengthening of MPJ	417
		33.16 Syndactylisation of toe	424
	1		100



34.0 Tendon graft	17	-	-
47.0 Hardware removal	5571	47.42 Screw solid design	497
48.0 Arthroscopy	20	-	-
49.0 Metatarsal head	381	-	-
excision			
50.0 Prosthetic	50	50.12 Silastic Swanson	753
Replacement 1 st MPJ		50.12 Double stem silastic implant	203
		50.6 Resurfacing of met head	213
51.0 Prosthetic removal	53	-	-
52.0 Subtalar arthroeresis	61	-	-
54.0 Excision of ganglion	1538	-	-
55.0 Excision of lesion	97	55.1 Excision of foreign body	80
tendon			
56.0 Excision of bone	130	-	-
fragment			
57.0 Excision of sesamoid	301	-	-
59.0 Bone lesion	27	59.1 Excision of cyst	649
		59.2 Osteophyte nibbling	370
		59.4 Excision of small bone	101
60.0 Open reduction	176	-	-
fracture			
61.0 Tendon repair	358	-	-
64.0 Osteotomy midfoot	53	-	-
65.0 Osteotomy calcaneus	92	-	-
66.0 Harvest bone graft	475	-	-
67.0 Repair with bone graft	111	-	-
68.0 Wound management	249	-	-
69.0 Repair of capsule	983	-	-
70.0 Steroid Injection	1003	-	-
76.0 Manipulation under	349	-	-
anaesthetic			

Table 4 OPCS coded procedure counts (IPj= interphalangeal joint, MPJ= metatarsophalangeal joint, EHL = Extensor hallucis longus, EDL = Extensor digitorum longus, EDB = Extensor digitorum brevis, PNA= partial nail avulsion, TNA = total nail avulsion).

2.8 Outcome Measures

Within PASCOM-10 several outcome measures can be reported. These are pathology-focused, as

well as patient experience. Included in the measures are a numerical visual analogue scale (VAS),

and the Manchester Oxford Foot Questionnaire (MOXFQ) which includes measures on pain, walking

and social interaction. This has been reported to be the most comprehensive tool for measuring outcomes of foot and ankle pathology². Additionally, the Patient Satisfaction Question (PSQ10) is used to report on the experience individuals have with a service. With all the outcomes there is an opportunity to report on the measure before and after intervention.

Data from the invasive and non-invasive domains were not fully analysed as the presentation of the data was deemed unreliable to report. PSQ10 was not retrievable and there was no reported VAS from invasive inputs. Within this data, there is a large amount of confusion in the organisation and representation leading to unreliable conclusions. This is mainly due to a lack of validation from the inputs of the data creating many false positives and negatives leading to unretrievable data as well as many fields not being completed. Developing the tool to include specific subtypes features for intervention would improve the quality of the data. The data focused on specific invasive interventions was extracted and reported in Table 7 However, MSK data does exist without complex permutations of what procedure was completed, and sub-type categories are clearly defined with free-form text limited. Therefore, this data presents reliable and clear outcomes for VAS and MOXFQ data. The pre and post-scores for these outcomes can be seen in Table 8 with each intervention category defined.

Intervention	PRE			Post				
	VAS	MOXFQ(w)	MOXFQ(P)	MOXFQ(S	VAS	MOXFQ(w)	MOXFQ(P)	MOXFQ(SI)
				1)				
4.0 Athrodesis	-	60.3+/-23.5	62.17+/-	50.1+/-	-	20*/-25.2	21.76+/-23.1	14.7*/-21.0
Hallux			19.11	24.2				
N= 4393 out of								
7456								
5.0	-	55.67+/-	56.4+/-20.9	52.4+/-	-	18.4+/-23.9	22+/-22.48	14.6+/-21.13
Arthrodesis		25.5		24.4				
Lesser toes								
N= 11677 out								
of 19752								
6.0	-	55.9+/-25.5	54.2+/-21.8	50.9⁺/-	-	17.03+/-23.3	19.72+/-21.9	14.17+/-20.52
Arthroplasty				25.3				
lesser toes								
N=19919 out								
of 26073								
7.0 Osteotomy	-	52.22+/-	56.78+/-	51.77+/-	-	15.57+/-21.11	20.5+/-20.55	12.33+/-18.69
1 st MPj		23.52	19.58	22.57				
N=26558 out								
of 37963								
8.0 Osteomtoy	-	54.5⁺/-24	59+/-18.83	49.4+/-	-	17.2+/-22.8	22+/-20	12.67+/-18.8
Hallux				23.34				
N= 4483 out of								



7595								
14.0	-	52.8+/-25.3	55.63+/-	47.7+/-	-	19.1+/-24	23+/-22.7	14.68+/-20.79
Cheilectomy			20.92	24.23				
N=5668 out of								
9328								
17.0 Lesser	-	59.13+/-	59+/-19.84	55.5+/-	-	20.2+/-24	22.7*/-21.5	17.86+/-22.02
metatarsal		23.9		23.24				
osteotomy								
N= 5598 out of								
8857								
23.0 Neuroma	-	65.59+/-	62.17+/-	52+/-24.2	-	23.4+/-26.74	26+/-23.86	17.3*/-21.93
N=5816 out of		21.62	18.23					
9995								
29.0 Tendon	-	55.57+/-	54.58+/-21	52.1+/-	-	18.69+/-23.62	21.3+/-22	16.05+/-21.3
Lengthening		24.5		24.5				
N=5671 out of								
8153								

Table 5 Average MOXFQ scores for pre and post-invasive intervention for each domain, scored outof 100 with SD presented for each of the main intervention categories.

All areas of MOXFQ improved after intervention, with neuroma presenting as the most painful condition reported by patients. All possible reported interventions for each area have been combined and where no data was completed at follow-up removed. The reported number of outcome measures per area is significantly lower than the number of recorded interventions with many only representing half of the data set.

Intervention			PRE				Post	
	VAS	MOXFQ(w)	MOXFQ(P)	MOXFQ(S I)	VAS	MOXFQ(w)	MOXFQ(P)	MOXFQ(SI)
Orthoses/insol	6.4+/-	48.4+/-	46.7+/- 28.9	36.6+/-	1.5+/-1	25.5+/-23.6	31.2+/-22.5	21.5+/-14.8
es Pre n=220	2.4	31.2		29.9				
Post n=4								
Advice	5.6.⁺/-	41.7+/-	41.6+/- 28.9	29.9*/-	2.8+/-	21.8+/- 14	26 +/- 7.4	13.4 */-8.1
Pre n=45	2.4	31.04		29.9	2.6			
Post n=5								
Exercise	6.3+/-	53.2+/-21.5	53.2+/-19.8	40.8+/-	1+/- 0.7	3.4+/-3.5	11+/-5.4	3.6+/-8
Pre n=85	1.7			23.7				
Post n=5								
Footwear	6.43+/-	51.17*/-	53.6+/-19.9	39.8+/-	1+/-1.4	33.5+/-37.4	37.5+/- 31.8	18.5+/-17.6
Pre n=99	1.8	23.9		25.2				
Post n= 2								
Mobilisation	5.8+/-	39.6+/-31	50.8+/-28.9	19.5+/-	-	-	-	-
Pre n=6	2.4			29.9				
Post n=0								
Shockwave	7.3+/-	73.8+/-31	68.3+/-28.9	53+/-29.4	6.4+/-	63.2+/-16.9	63.8+/-12.6	48.8+/-15.7
Pre n=9	2.4				1.5			
Post n=9								
Taping	6.5+/-	60.4+/-29.7	56.4+/-27.3	39.5+/-29	-	-	-	-
Pre n= 7	2.2							
Post n=0								

Table 6 Outcome measure scores for MSK interventions pre- and post. VAS scale of 0-10 with SD.MOXFQ each component out of 100 with SD.

The reporting of outcome measures at follow-up is of poor quality with all interventions, except for Shockwave therapy, which has significantly lower inputs after treatment has occurred. This sample represents a small percentage of the database and although the design and format of data collection should be promoted as best practice the user input compromises the integrity of interpreting these outcomes. Improved training with possible reminders to complete post-outcome measures could improve this area of the database.

2.9 Discharge Summary

Capturing the outcome of an intervention demonstrates that the treatment has been completed and either referred to another service or discharged. Data is categorised as either Invasive or Noninvasive with a small set of data related to MSK.

Invasive treatments resulted in 92,999 events of which 53,272 were completed with a discharge. There were 3,240 episodes of monitoring with open-end access to services and 2,786 that were recorded and needed further surgery. Non-invasive treatments recorded 576 events of which 305 were completed to discharge, 170 were open access with monitoring and 34 proceeded into invasive surgery. MSK reported 44 events with 39 resulting in complete discharge. Referrals to other services were presented for invasive and non-invasive events and can be viewed in Table 9.

Referral	Invasive	Non - Invasive
Orthotics	610	9
Podiatry	123	13
MSK	98	-
Physio	94	-
Orthotist/Footwear	93	2
GP service	56	5
Pain Clinic	41	-
Acute Surgical	20	-
Acute Medical	16	-
Tissue Viability	20	1

 Table 7 Onward referral pathways.



Completion of the patient journey allows for service evaluation and planning to occur, with details on access to other services. In addition to the referral pathways data were analysed for the time frame patients were within a service receiving care. The average number of days for a patient to receive treatment was 154 days with a median value of 77 days. Excluding obvious errors like this as outliers provides credible data to be used for service promotion for efficiency and promptness where waiting times are concerned.



3.0 Development and Recommendations

The potential to develop the PASCOM-10 database into a registry will give credible and reliable data on request for members. The development of a self-service business intelligence system that is fed with the data from PASCOM-10 will give immediate national presentations of data based on member requests. Utilising a gatekeeper to this database within the structure of the organisation will enable secure and regulated outputs to be used in a suitable way improving the governance of information. Creating a system where a member can request data giving a national picture for a particular condition would enhance the value of this service, an example of a proforma that could be used by members to request data is presented in Appendix 1.

From the analysis of this data set it is apparent that as a user, the choices for decisions to be reported are not always available and free-form text is often used. This leads to many permutations meaning the same thing and user error is high. The development of the database to include defined subtypes that are compulsory to input will improve the reliability and integrity of the database. This could be achieved by standardising intervention choices with a coding system seen in other databases, like ICD-10. Similarly, inputs such as date of birth could also be made compulsory with the restriction of the episode being completed until core inputs are complete.

It is recommended that the current system is updated to reflect the findings of this review and a strategy on how to train and support users to effectively input data is created.



4.0 Conclusion

The use of an audit tool to support clinical practice provides evidence-based reporting on the scope of practice and patient outcomes. PASCOM-10 has evolved over many years and as it currently stands the use of the software has outgrown the current design. The database has a strong base design and provides many unique features that could be of great benefit to the profession moving forward. It, however, requires stronger data ontology to provide credible and reliable outputs. Current integrity is compromised by input errors and a complex episode matrix. The main improvements lie in the categorisation of data, moving away from free form, with the recognition that users are not able to report what they want to. Secondly, there needs to be improved user inputs with recognition of the impact incomplete data inputs have on reports. Integrating this system into education and continued professional training will improve the outputs allowing for the potential of a registry to be created.

From the data that has been reviewed, some clear national trends can be utilised in clinical practice to support service delivery. It appears that women are three times more likely than men to seek podiatric care, with people aged 50-69 years old presenting most frequently. 70% of surgical and 84% of non-surgical patients are treated in the community from primary care referrals. As little as 10% of both pathways receive private attention. Almost 50% of patients who receive nail surgery have no underlying health complaints with those attending for podiatric surgery most likely to have hypertension. An acquired HAV is the most common foot presentation, particularly in a podiatric surgery clinic with over 36,583 osteotomies being performed over 13 years, with a scarf atkin procedure being the most popular. All outcome measures improved post-treatment with a neuroma presenting as the most painful foot condition to have. 60% of patients were discharged after surgery with no further care required with the remaining patients either being monitored, referred to other healthcare services or needing additional treatment. This audit reveals some important data on the incidence of injury, procedures and outcomes collected in the PASCOM-10 software. It is



acknowledged that some significant improvements should be addressed in the accuracy of data input and user interface to enhance this tool making it more useable for future data collection. The Royal College of Podiatry is currently reviewing the status of PASCOM-10 to ensure that the correct audit tool is available to members.



5.0 References

- Ludvigsson, J.F., Håberg, S.E., Knudsen, G.P., Lafolie, P., Zoega, H., Sarkkola, C., von Kraemer, S., Weiderpass, E. and Nørgaard, M., 2015. Ethical aspects of registry-based research in the Nordic countries. *Clinical epidemiology*, 7, p.491.
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6.0 Appendices

Appendix 1

PASCOM-10 data request Proforma

PASCOM-10 Data Request Application				
	ROYAL COLLEGE of PODIATRY			
Name:				
Address:	Phone:			
	Trust:			
	Work Email:			
Role:				
SPECIFIC domains to be included: Please th	ICK			
Age 🗌 Gender 🗆				
Surgical 🗆 Nail Surgery 🗆 MSK 🗆 Diabetic 🗆				
How would you like the data presented?				
Graphs \Box Tables \Box Excel \Box Report \Box				
Signed:	Name:			
	Date:			
Authorised:	Name:			
	Date:			