

UK osteopathic practice in 2019: a retrospective analysis of practice data.

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Abstract:	<p>Background</p> <p>The aim of this study was to describe osteopathic activity, scope of practice and the osteopathic patient profile to understand the role osteopathy plays within the UK health system a decade after the first survey.</p> <p>Method</p> <p>We used a retrospective questionnaire survey design to ask about osteopathic practice and audit patient case notes. All UK registered osteopaths were invited to participate in the survey.</p> <p>The survey was conducted using a web-based system. Each participating osteopath was asked about themselves, their practice and asked to randomly select and extract data from up to 8 random new patient health records during 2018. All patient related data were anonymised.</p> <p>Results</p> <p>The survey response rate was 500 osteopaths (9.4% of the profession) who provided information about 395 patients and 2,215 consultations.</p> <p>Most osteopaths were self-employed (81.1%; 344/424 responses) working alone either exclusively or often (63.9%; 237/371) and were able to offer 48.6% of patients an appointment within 3 days (184/379).</p> <p>Patient ages ranged from 1 month to 96 years (mean 44.7 years, Std Dev. 21.5), of these 58.4% (227/389) were female. Infants <1 years old represented 4.8% (18/379) of patients.</p> <p>The majority of patients presented with musculoskeletal complaints (81.0%; 306/378). Persistent complaints (present for more than 12 weeks before appointment) were the most common (67.9%; 256/377) and 41.7% (156/374) of patients had co-existing medical conditions. The most common treatment approaches used at the first appointment were soft-tissue techniques (73.9%; 292/395), articulatory techniques (69.4%; 274/395) and high velocity low amplitude thrust (34.4%; 136/395). The mean number of treatments per patient was 7 (mode 4).</p> <p>Conclusion</p> <p>To better understand the role of osteopathy in UK health service delivery, the profession needs to do more research with patients in order to understand their needs and their expected outcomes of care, and for this to inform osteopathic practice and education.</p>
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Question	Response
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<p>Competing Interests</p> <p>Use the instructions below to enter a competing interest statement for this submission. On behalf of all authors, disclose any competing interests that could be perceived to bias this work—acknowledging all financial support and any other relevant financial or non-financial competing interests.</p>	<p>AP is a Director at the Institute of Osteopathy, the members' organisation for the UK's osteopathic profession.</p>

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UK osteopathic practice in 2019:

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a retrospective analysis of practice data

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7

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15 [^] Membership of the National Council for Osteopathic Research is described at <https://ncor.org.uk>

16

17 **Abstract**

18 **Background**

19 This study describes  osteopathic activity, scope of practice and the osteopathic patient profile in
20 order to understand the role osteopathy plays within the UK health system a decade after our
21 previous survey.

22 **Method**

23 We used a retrospective questionnaire survey design to ask about osteopathic practice and
24 audit patient case notes. All UK registered osteopaths were invited to participate in the survey.

25 The survey was conducted using a web-based system. Each participating osteopath was
26 asked about themselves, their practice and asked to randomly select and extract data from up
27 to 8 random new patient health records during 2018. All patient related data were anonymised.

28 **Results**

29 The survey response rate was 500 osteopaths (9.4% of the profession) who provided
30 information about 395 patients and 2,215 consultations.

31 Most osteopaths were self-employed (81.1%; 344/424 responses) working alone either exclusively
32 or often (63.9%; 237/371) and were able to offer 48.6% of patients an appointment within 3 days
33 (184/379).

34 Patient ages ranged from 1 month to 96 years (mean 44.7 years, Std Dev. 21.5), of these
35 58.4% (227/389) were female. Infants <1 years old represented 4.8% (18/379) of patients.

36 The majority of patients presented with musculoskeletal complaints (81.0%; 306/378). Persistent
37 complaints (present for more than 12 weeks before appointment) were the most common (67.9%;
38 256/377) and 41.7% (156/374) of patients had co-existing medical conditions. The most

39 common treatment approaches used at the first appointment were soft-tissue techniques
40 (73.9%; 292/395), articulatory techniques (69.4%; 274/395) and high velocity low amplitude
41 thrust (34.4%; 136/395). The mean number of treatments per patient was 7 (mode 4).

42 **Conclusion**

43 To better understand the role of osteopathy in UK health service delivery, the profession needs to
44 do more research with patients in order to understand their needs and their expected outcomes of
45 care, and for this to inform osteopathic practice and education.


46 **Introduction**

47 Osteopathy has formed part of the provision of regulated musculoskeletal services in the United
48 Kingdom for almost three decades and features as part of both national and international clinical
49 guidelines [1–3]. Although osteopathy is perhaps most recognised for its use of spinal
50 manipulation, osteopathic practise encompasses a range of techniques appropriate to individual
51 patients, and includes also education and advice.


52 In 2009 the National Council for Osteopathic research (NCOOR) conducted a survey of osteopaths to
53 describe the full extent of their practise and the patient population consulting for osteopathic care
54 [4]. The survey was based on a standardised data collection (SDC) tool developed by practising
55 osteopaths [5]. Similar work has been undertaken subsequently in Belgium, Spain, Switzerland and
56 Italy to describe osteopathic care in other European countries [6–9].

57 The previous 2009 UK study indicated that the majority of patients sought osteopathic care for low
58 back pain (36%) and neck and shoulder pain (21.8%). The majority were female (56%) and
59 patients ranged between the ages of 0-93 years [4]. This information was useful to understand the
60 actual role and the potential role osteopathy could play in UK health care provision. Since 2009, we
61 anticipated that the role of osteopaths in the UK would have changed in line with infrastructure

62 changes within the provision of national healthcare. In 2012 the UK Government changed the way
63 in which healthcare provision is commissioned [10] with the introduction of a new low back pain
64 pathway and the creation of the First Contact Practitioner role, both of which provided
65 opportunities for osteopaths to work as part of multidisciplinary teams. Additionally, in 2017
66 osteopaths became recognised as part of the Allied Health Professions (AHP) community which has
67 enhanced potential roles for osteopaths within the UK National Health Service (NHS) [11].

68 While the information from the 2009 SDC study has been used extensively to describe the full
69 extent of osteopathic care to other health professionals, it now requires updating to describe the
70 profession as it is in 2020 

71 **Aim**

72 The aim of this study is to provide the osteopathic community, patients, the public and other health
73 care professionals with a descriptive profile of osteopathic practice, the osteopathic patient 
74 population and the care they receive from osteopaths. This study will help to formulate teaching
75 goals, plan ongoing continuing professional development activities, identify national research
76 priorities, provide data for stakeholder negotiation and ultimately to optimise patient care.

77 **Method**

78 **Design**

79 We used a retrospective questionnaire survey design to: i) ask about osteopaths and their
80 osteopathic practice and ii) audit patient case notes. The survey was a practice review, a type of
81 service evaluation using the principles of audit [12]. The retrospective design meant that we were
82 evaluating actual recorded data, therefore some data may be missing in patient records,. This type

83 of design can help to understand actual practice as reflected by the record keeping of the
84 osteopaths.

85 **Population and setting**


86 All osteopaths in the UK are required to be registered with the General Osteopathic Council (GOsC),
87 a statutory body set up for patient protection. Osteopaths must undergo training at a recognised
88 osteopathic education institution or be trained to an equivalent standard elsewhere so that the
89 practicing osteopath is capable and able to comply with the Osteopathic Practice Standards [13]. All
90 registered osteopaths were invited to participate in the study. There were 5,341 registered
91 osteopaths during 2019 (www.osteopathy.org.uk). Only information about patients and osteopaths
92 in the private health sector setting was sought for this study. A very small proportion of osteopaths
93 work in the National Health Service (NHS), data about and from the NHS was not collected as part
94 of this study.

95 **The questionnaire survey**

96 The survey questions were mainly derived from the original standardised data collection survey
97 conducted in 2009 [4] and from a survey commissioned by the GOsC [14]. The questionnaire
98 consisted of three parts, described in S1 File. Part A contained information about the survey and
99 asked for consent to participate. Part B asked about the osteopath respondent. Part C asked about
100 osteopathic patients and practice, based on data collected through review of patient records from
101 the year 2018.

102 Study data were collected and managed using the Research Electronic Data Capture (REDCap)
103 software, a secure, web-based application designed to support data capture for research studies
104 [15].

105 **Recruitment**

106 All GOSc osteopaths registered as practicing were invited to participate in this online-survey. They
107 were invited by email by the GOSc at the request of the National Council for Osteopathic Research
108 (NCOR), the funding body and research team, as well as by emails directly from NCOR. The survey
109 was promoted on social media (Facebook and Twitter) and in the osteopathic profession magazines 
110 (*The Osteopath* and *Osteopathy Today*) to promote the survey and encourage participation.
111 Osteopaths were informed that they could use their participation in the survey as part of their
112 continuing professional development (CPD).

113 The REDCap survey platform allocated a random ID to participants so they could return to the
114 survey and continue later. Those who wished to participate in the survey were asked to provide
115 their consent online before commencing the survey. Once section A was completed, the system
116 automatically registered them as participants and opened section B of the survey.

117 We also asked osteopaths who did not want to participate their reasons for
118 non-participation where relevant. Reminders were sent by email after one month and two
119 months.

120

121 **Health record sample selection**

122 We required the osteopaths to give us data about new patients throughout the year in 2018.
123 Selecting patients from both new and returning encounters may lead to an over-
124 representation of those consulting more frequently (i.e. those seeking care more often are
125 more likely to be selected), therefore we decided to profile only new patients.

126 To select records, we provided each osteopaths with a random date from 2018, generated by a
127 third-party provider of true random data [16]. Participants were instructed to find the first new
128 patient on or after the provided random date.

129 **Anonymity**

130 **Osteopath anonymity**

131 All participants were provided with a unique identifier for use when returning to the survey. The
132 survey database was only consulted where an osteopath forgot or lost their study identifier
133 number. In order to ensure that no unique combination of data could be used to identify any
134 individual osteopath, personal data was collected in ranges. For example, age-ranges were collected
135 rather than ages, and data regarding years in practice was collected in 2-year ranges.

136 Section B of the questionnaire was not linked in any way to section C, thereby reassuring
137 participants that their responses regarding patient care and management could not be used to
138 identify them.

139 **Patient anonymity**

140 The separation of part B from part C contributed to ensuring patient anonymity. Directly
141 identifiable patient data was not collected in order to ensure patient anonymity. Osteopaths were
142 asked not to include records where a patient's health might be an identifying factor, e.g. very rare
143 disease. All data was combined and analysed, no individual information is presented in isolation as
144 a case.

145 **Pilot testing**

146 To assure external validity we asked osteopaths, stakeholders and researchers (10 people in total)
147 to comment on and test the questionnaire's face and content validity. For internal validity, we pre-
148 tested the software for reliability of health record selection, data entry and data extraction.

149 **Sampling and sample size**

150 In the previous survey of osteopaths during 2009, a 9.4% response rate was achieved: 342
151 osteopaths participated contributing data about 1,630 patients. For 2019, a representative sample

152 of osteopaths was estimated at 359 from 5,341 registered osteopaths using a confidence interval
153 of 95% with a 5% margin of error). Using a 10% response rate a minimum of 3,590 osteopaths
154 needed to be contacted. However, for the sake of inclusiveness all registered osteopaths were
155 invited to take part as we were asking osteopaths to review fewer patient records than the last data
156 collection exercise (up to 8, whereas in the previous survey we asked for 10).

157 **Statistical analysis**

158 Descriptive statistics were used to describe both the osteopaths, osteopathic patients and
159 osteopathic practice. Statistical analysis was conducted using the reporting functionality built into
160 REDCap where possible. Where this was not possible OpenOffice's *LibreOffice Calc* and the Python
161 programming language were used. Continuous variables are presented where feasible as means
162 with standard deviations. Categorical data are presented as frequencies with percentages.
163 Percentages were rounded to two decimal places.

164 Both fully-completed and partially-completed patient records were included for analysis.

165 Consequently, patient-related statistics have variable total responses.

166 Data describing the demographic characteristics of the UK's register of osteopaths was obtained
167 from the General Osteopathic Council (GOSC) to determine representativeness.

168 **Managing missing data**

169 For data extraction from the health records, respondents were given the opportunity to
170 answer 'don't know/can't tell from records'. For other questions, osteopaths were permitted
171 to leave an entry blank and provide a text for explanation. Partial data occurred when a
172 participant stopped answering the survey questions before completion.

173 **Ethics and Governance**

174 The study protocol was reviewed and written approval was provided by the Queen Mary,
175 University of London Ethics of Research Committee Panel D, reference “QMERC2019/23”, on 23rd
176 May 2019.

177 **Informed consent from participating osteopaths**

178 All participating osteopaths were asked to read the information about the study and provide their
179 consent in the first section of the survey prior to engaging in the study.

180 **Data security and protection**

181 Data protection was guaranteed at the level of data handling and data hosting via the firewalled
182 university servers, and was encrypted in transit over the Internet. Data was entirely anonymous
183 and IP addresses were not made available. The full dataset was only made accessible to the study
184 staff and the staff responsible for the survey software.

185 All was handled in accordance General Data Protection Regulation laws and guidance set therein,
186 anonymised and used in accordance with the guidance set out in Health and Social Care Act 2012
187 on Good Clinical Practice in research.

188 **Results**

189 **Survey participation data**

190 During 2019, all 5,341 osteopaths registered with the GOsC were invited to participate in the
191 survey. 500 osteopaths provided data for analysis, representing 9.4% of registered osteopaths.
192 They contributed information about 395 patients and 2,215 consultations.

193 The most frequent age-range for respondents was 51-55 years old (22.9%; 95/415). The median
194 age fell within the age-group 46-50 years. Females represented 59.1% (n=254) and 98.6%
195 (423/429) gained their qualification to practice in the UK. The median 'years in practice' fell in the
196 range 19-20 years in practice.

197 **Practice data**

198 The number of patients seen during the week (Monday to Friday) varied from 2 to 105 with modes
199 of 20 and 30. Nearly two-thirds (63.3%) of osteopaths did not see patients at weekends. The
200 number of *new* patients seen throughout the week varied from 0 to 80 with a mean of 7.

201 Just under half of patient appointments (48.6%; 184/379) were available within 3 days, with only
202 6.9% (26/379) of appointment waiting times being longer than a week. The most commonly-
203 experienced waiting time was 2-3 days (33.0%; 125/379).

204 Most patients paid for their appointments themselves (88.4%; 327/370).

205 The majority (81.1%) of osteopaths (344/424) were self-employed. There were 12.7% associate
206 osteopaths who did not have a contract of employment (54/424) and 4.3% with a contract of
207 employment (18/424).

208 Most osteopaths (63.9%; 237/371) worked alone often or exclusively.

209 **Patient characteristics**

210 **Age and gender of patients**

211 More females than males sought osteopathic care 58.4% vs 41.6% (227 vs 167 records).

212 The age profile of patients showed that 53.8% of patients were between 30 and 60 years old. Nearly
213 10% were under 10 years old and of these 4.8% were under 1 years old.

214 **Fig. 1 Age profile of patients**

215 **Previous experience of osteopathy**

216 Over half of patients had not seen an osteopath before (57.7%; 226/392). Of those who *had* seen an
217 osteopath before, just over half (51.4%; 75/146) had seen a different osteopath previously.

218 **Presenting complaint**

219 The patient’s main presenting complaints were musculoskeletal pain or dysfunction (81%;
220 306/378).

221 **Table 1. Patient main presenting complaint**

Patient main presenting complaint	Count (n)	%
Musculoskeletal pain or dysfunction	306	81.0
Infancy-related complaints	18	4.8
Neurological	16	4.2
Other (see below)	9	2.4
Ear-nose-throat	6	1.6
Gastrointestinal	5	1.3
Psychological	4	1.1
Prevention/maintenance	3	0.8
Urogenital	2	0.5
Rheumatological	2	0.5
Cardiovascular	2	0.5
Respiratory	1	0.3
Obstetrical	1	0.3
General/non-specific	1	0.3
Endocrinological	1	0.3
Dentistry/orthodontics	1	0.3
Total	378	

222

223 The “other” main presenting complaints were reported as: reflux; overall wellbeing; nerve pain
224 post shingles; clenching teeth; allergies; migraine; ME / CFS; checkup.

225 **Co-existing conditions**

226 41.7% (156/374) of patients had current co-existing conditions diagnosed by a medical
227 practitioner. The most common co-existing conditions were: hypertension (*n*=41); arthritis (*n*=31);
228 anxiety(*n*=22); asthma (*n*=19); migraine (*n*=16); diabetes (*n*=14); irritable bowel syndrome (*n*=13).

229 **Symptom duration**

230 The most common duration of symptoms for the presenting complaint before attending an
231 appointment was 1-4 weeks (21.5%; 81/377), while 67.9% (256/377) of patients experienced
232 persistent symptoms (13 weeks or longer).

233 **Fig 2: For how long the patient had this complaint, including previous episodes**

234 **Consultation data**

235 Just over half of treatment approaches used at first appointment and at second appointments
236 comprised of soft tissue, articulatory, high-velocity low-amplitude (HVLA) thrust, stretching,
237 and/or muscle energy techniques (51.6% and 56.5% respectively).

238 In almost half the recorded appointments osteopaths reported providing self-management advice
239 and strategies (49.4%; 516/1,045). This comprised of stretching exercise, advice concerning
240 physical activity, general physical activity, application of cold, and strengthening exercise.

241

242 **Table 2: Treatment approaches (first and second appointment)**

Treatment approaches	1 st appt Count (n=395)	%	2 nd appt Count (n=395)	%
Soft tissue techniques	292	73.9	243	61.5
Articulatory techniques	274	69.4	220	55.7
HVLA thrust	136	34.4	100	25.3
Exercise - stretching	130	32.9	79	20
Muscle energy	115	29.1	82	20.8

Self-management	106	26.8	58	14.7
Cranial techniques	91	23	77	19.5
Lifestyle advice	87	22	42	10.6
Inhibition techniques (e.g. trigger points)	75	19	46	11.7
General osteopathic treatment (GOT)	71	18	48	12.2
Exercise - strengthening	67	17	46	11.7
Functional technique	60	15.2	41	10.4
Myofascial release (MFR)	40	10.1	30	7.6
Other	36	9.1	12	3
Relaxation	34	8.6	15	3.8
Biodynamic approach	31	7.9	32	8.1
Exercise - proprioception	28	7.1	23	5.8
Dry needling	27	6.8	18	4.6
Self-medication advice	27	6.8	11	2.8
Visceral	20	5.1	11	2.8
Strain/counterstrain	18	4.6	16	4
Dietary advice	15	3.8	3	0.8
Mindfulness	15	3.8	4	1
Pain neuroscience education (PNE)	12	3	5	1.3
Electro-therapy	11	2.8	11	2.8
Acupuncture	4	1	2	0.5
Psychological treatment	3	0.8	1	0.3
No hands-on treatment	3	0.8	0	0
Applied or clinical kinesiology	2	0.5	3	0.8
Orthotics	2	0.5	2	0.5
Nutrition therapy	2	0.5	1	0.3
Injections	0	0	0	0
Prescription of medication	0	0	0	0
Bio-resonance therapy	0	0	0	0
Herbal medicine	0	0	0	0
Homeopathy	0	0	0	0
Hypnosis	0	0	0	0

243

244 Patient use of other healthcare modalities

245 36.6% of patients (138/377) had previous treatment or undergone investigations for the
 246 presenting episode, although only 14.8% (56/379) of patients were referred from another
 247 healthcare practitioner. Referrals were most frequently received from medical general
 248 practitioners (28.6%;16/56).

249 **Table 3: Professions referring patients to osteopaths**

Professions referring patients to osteopaths	Count (n)	%
General practitioner	16	28.6
Complementary therapist	12	21.4
Another osteopath (including an assistant)	10	17.9
Another medical specialist	7	12.5
Physiotherapist	4	7.1
Midwife	4	7.1
Another allied health professional	1	1.8
Don't know/can't tell from records	1	1.8
Dentist	1	1.8
Total	56	

250
 251 There were 27 reports of osteopaths referring patients to other healthcare professions, with
 252 medical general practitioner again being the most common (55.6%; 15/27).

253 **Patient symptoms**

254 55.3% of symptoms reported by patients were of slow or insidious onset (208/376), 23.9%
 255 (90/376) were acute/ sudden (non-traumatic) and 17.6% (66/376) were from a traumatic onset.
 256 In 12 responses (3.2%) the onset was unknown or was not recorded.

257

258 **Discussion**

259 **Overall summary of findings**

260 The survey response rate was 9.4%, responders were most frequently aged between 45 and
261 55 years with extensive experience, and were mostly female. The osteopaths worked mostly
262 alone from Monday to Friday and were able to offer about half their patients an appointment within
263 3 days.

264 Patients were typically in their mid-forties and 58% were female. Over half of the new patients
265 had not seen an osteopath before (58%).

266 The large majority of patients (81%) presented with musculoskeletal complaints. 67.9% of these
267 were persistent complaints, and 42% of patients had co-existing medical conditions. 36.6% of
268 patients had received previous treatment or investigations for their presenting episode. Medical
269 general practitioners (GPs) were the most frequent referrals and referrers were to and from GPs
270 (55.6% and 28.6% of referrals respectively).

271 The most common treatment approaches used were soft-tissue techniques, articulatory
272 techniques and high velocity low amplitude thrust.

273 The mean number of treatments per patient was 7 (mode 4).

274 **Comparison with the survey of osteopaths on 2009**

275 The OsteoSurvey 2019 employed REDCap survey software to support data collection in contrast to
276 the 2009 standardised data collection (SDC) study where osteopaths filled out paper
277 questionnaires. This did not affect response rates: in 2009, 394 osteopaths responded (9.4% of the
278 profession at the time) and 500 osteopaths responded in 2019 (9.4% of the profession).

279 In the decade between this survey and the last and earlier studies on profiles of osteopathic care,
280 patient characteristics have remained broadly similar for adult age profiles, gender and presenting



281 complaints (Burton, 1981; Pringle and Tyreman, 1993; Hinkley and Drysdale, 1995; GOsC, 2001;
282 McIlwraith, 2003; Fawkes *et al.*, 2010). The presence of co-morbidities is also similar: in 2019,
283 41.7% of patients reported a range of comorbidities; within this number the most frequent were
284 hypertension (11.0%), arthritis (8.3%), anxiety (5.9%), and asthma (5.1%). This profile is quite
285 similar to that reported in 2009 where patients reported hypertension (11.7%), asthma (6.6%),
286 arthritis (5.7%) and anxiety (3.6%) as the most frequent comorbidities. **Previous osteopathic**
287 **experience** remains at around 40%. Self-referral is still the most common route to treatment with
288 82.6% of patients being self-referred in 2019 compared with 79.9% in 2009.

289 Management of symptoms in both surveys included a broad range of interventions used e.g. soft
290 tissue techniques (78% in 2009 and 73.9% in 2019); articulation (72% in 2009 and 69.4% in
291 2019); HVLA thrust techniques (37.7% in 2009 and 34.4% in 2019), and cranial techniques (25.8%
292 in 2009 and 23.0% in 2019). The data showed **continued emphasis of** the promotion of self-
293 management options including education, advice, and exercise in keeping with recommendations in
294 current guidelines [3].

295 The costs of treatment were met by individuals in 88.4% of cases in 2019 compared with 89.1% in
296 2009. In 2019, 4.6% of patients had their treatment costs met by insurance schemes, 0.5% by their
297 employer and 0.5% by the NHS. In 2009, 6.6% of patients had their treatment funded by health
298 insurance schemes, 0.6% by their employer, and 0.6% by the NHS. Access to treatment not funded
299 by individuals has remained static in the past decade. **While there may be a variety of reasons for**
300 **this, access to treatment still remains limited by ability to pay.**

301 However there are some changes. In the 2019 Osteosurvey, 13.2% (50/379) were under 20 years
302 compared with 8.6% in 2009; and 4.7% were under 1 year in 2019 compared to 2.1% in 2009
303 suggesting an increase in consultations for much younger children.

304 Prior to attending an osteopathic practice in 2009, 48% of patients reported they had consulted
305 their GP, compared with 41.3% (95/230) in 2019. In 2009, a total of 29% of patients had received

306 previous treatment and investigations through the NHS including prescribed medication (20.1%),
307 imaging (13.9%), hospital outpatient treatment (10.9%), and hospital inpatient treatment (1.3%).
308 In contrast in 2019, 23.3% of patients reported undergoing imaging, and 6.1% had other forms of
309 investigations including blood tests and urinalysis. The relationship between private and publicly
310 funded care systems are closely linked.

311 Patients attending osteopathic practices in 2019 reported they experienced a range of symptoms
312 including musculoskeletal pain and dysfunction (81.0%) and non-musculoskeletal symptoms
313 (19.0%). In contrast, in 2009, 95.1% of patients reported musculoskeletal symptoms, with 4.3% of
314 symptoms being non-musculoskeletal, indicating perhaps a greater diversity of care offered in 2019
315 and /or an increase in demand for non-musculoskeletal care.

316 Waiting time to access treatment has changed. In 2019, 48.6% of patients were seen within 3 days
317 as opposed to 71% of patients in 2009. In 2009 there were around 6 osteopaths per 100,000 in the
318 UK population and in 2019, 8 per 100,000. Despite this apparent increase in osteopaths, quick
319 access to an osteopath has fallen which may indicate increased demand or limited availability, for
320 example indicated by the working hours mostly between 10.00am - 4.00pm Monday to Friday.

321 In 2019, 67.9% of patients presented with persistent symptoms (13 weeks or longer). This
322 included data concerning any previous symptom episode. In 2009 patients were asked about the
323 duration of symptoms for their current episode which was 13 weeks or longer for 32.5% of
324 patients. Both figures represent large numbers of patients with persistent symptoms.

325 Other additional differences noted are changes to the management landscape. Osteopaths are
326 implementing management approaches which demonstrate packages of care, as recommended by
327 clinical guidelines [3]. This suggests a growing awareness of the use of evidence by clinicians. The
328 clinician cohort who completed the survey may be more confident in their practices and motivated
329 to engage in initiatives which demonstrate the full extent of osteopathic care.

330 **Comparison with other countries**

331 In a recent review of osteopathic care globally [21], the findings about osteopathic practice were
332 similar at an international level. Osteopaths internationally work roughly the same number of
333 hours per week, see similar numbers of patients per week, and osteopathic practitioners are most
334 likely to work in one location and frequently on their own (with the exception of Italy). The vast
335 majority of patients across the UK and central Europe are seen within one week. Musculoskeletal
336 conditions (lower back and neck pain) account for the highest proportion of patient complaints
337 across all countries. In central Europe the preferred techniques used by osteopaths were for the
338 more gentle techniques such as osteopathy in the cranial field, visceral, functional and biodynamic
339 techniques compared with the UK and Australian data that showed a preference towards more
340 structural techniques such as soft tissue manipulation, articulation/mobilisation and spinal
341 manipulation techniques. The UK compares with other countries showing that patients who most
342 commonly attend osteopathic practitioners were employed/self-employed adults and more likely
343 to be women than men.

344 **Strengths and limitations**

345 Male participants were slightly under-represented in OsteoSurvey. In 2018 the GOsC register was
346 comprised of 49% male osteopaths as opposed to the 41% male respondents in the survey, and
347 when we compared the age profile of registered osteopaths and responders, osteopaths between
348 the ages of 26 and 35 years were also under-represented.

349 The response rate for this survey was not as high as we would have liked but the overall sample
350 size for patients was sufficient for our analysis. We chose a retrospective audit of patient records
351 which may have proved difficult for some clinicians as their records may not have contained the
352 necessary information to complete the questionnaire. However, we thought this may be a finding in
353 itself to highlight areas where record keeping could be improved. Overall the amount of missing
354 data did not highlight any particular area of poor record keeping.

355 We have been able to compare some data from the 2009 and 2019 surveys, and this is the first
356 assessment of this nature within the profession to describe any change over time.

357 **Future Research**

358 Other surveys suggest that awareness of osteopathy by the population remains low. An
359 independent survey conducted by YouGov indicated that 57% of people who had not seen an
360 osteopath wanted assurances on a recognised level of education and training, 65% expected good
361 quality advice and treatment, and 90% wanted evidence of effectiveness or recommendation [22].
362 After the 2009 survey a recommendation was made for the profession to develop a system for
363 independent outcome data collection. This has resulted in the development of the Patient Reported
364 Outcome Measurement (PROMs) system. This system has collected some encouraging outcome
365 data collected directly from patients and independent to the clinician delivering care [23].
366 Promoting the findings of the PROMs data and information concerning clinicians from the
367 OsteoSurvey 2019 study will start to fill the information gap identified by patients.

368 Profiling osteopaths, their patients and the nature and type of care helps to describe the profession
369 which is useful for providing information for the profession, its regulatory body, its education
370 institutions and its professional body and for informing other health care practitioners about
371 osteopathy. However, more data is needed about patients, to understand their expectations,
372 experiences and outcomes this information would enable practitioners and the profession as a
373 whole to reflect on the nature and type of care they give and its impact on patients.

374 **Conclusions**

375 The future of the UK osteopathic profession will depend on its ability to adapt to the changing
376 health care needs of the nation. Traditionally osteopaths have filled these gaps for example for
377 persistent pain and other conditions not well managed within the NHS or by pharmaceuticals.
378 There is some indication of flexibility and adaptability which could be enhanced through education,
379 training and active marketing to reflect demographic changes and areas where health service

380 provision is not meeting demand. As the aging UK population grows, demand for care for persistent
381 musculoskeletal conditions and other age related disorders will increase, for osteopathy to
382 maintain and sustain its presence it will need to ensure it offers patients a unique experience and
383 health and wellbeing benefit.

384 To better understand the role of osteopathy in UK health service delivery, the profession needs to
385 do more research with patients in order to understand their needs and their expected outcomes of
386 care, and for this to inform osteopathic practice and education.

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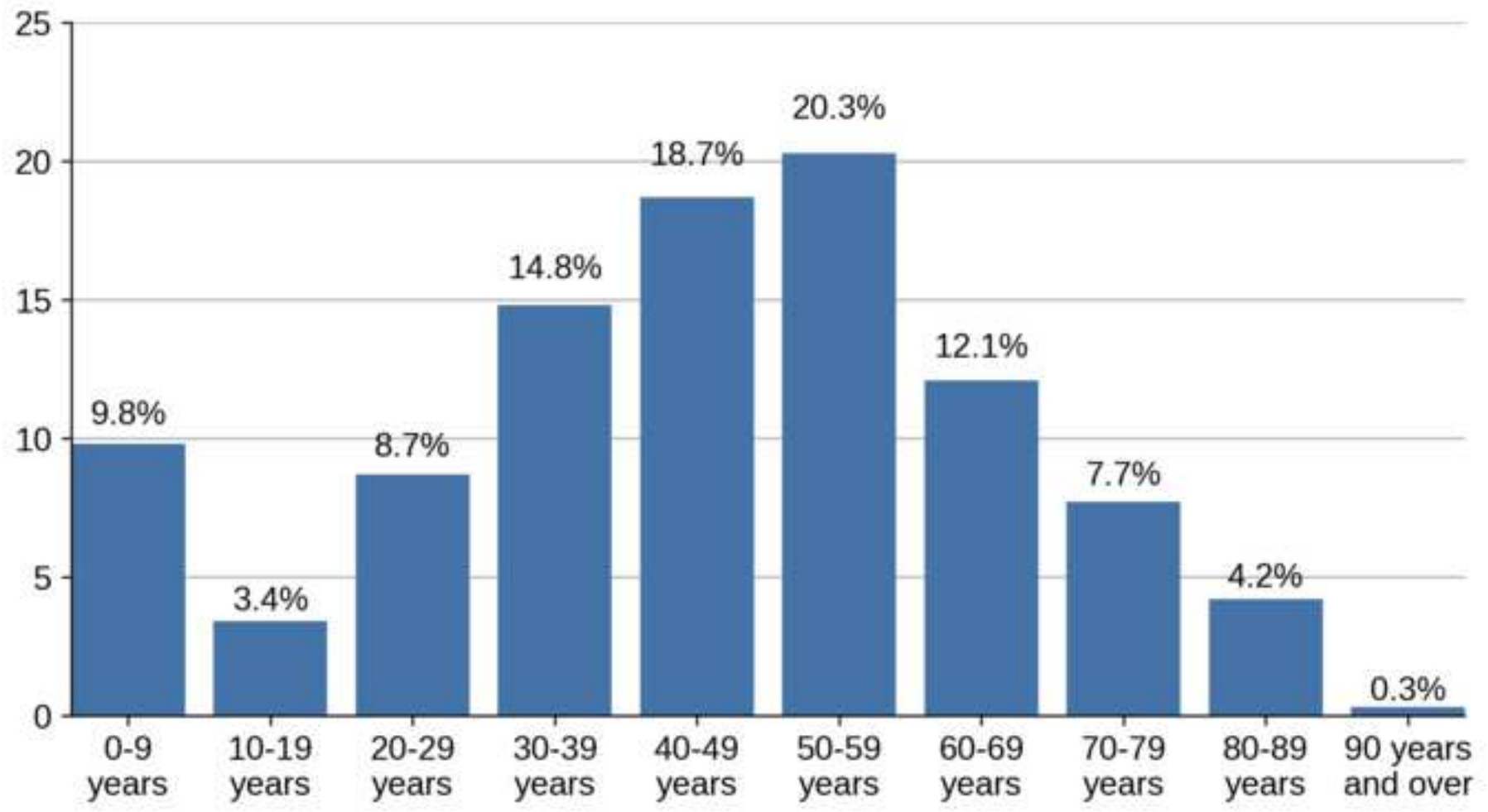
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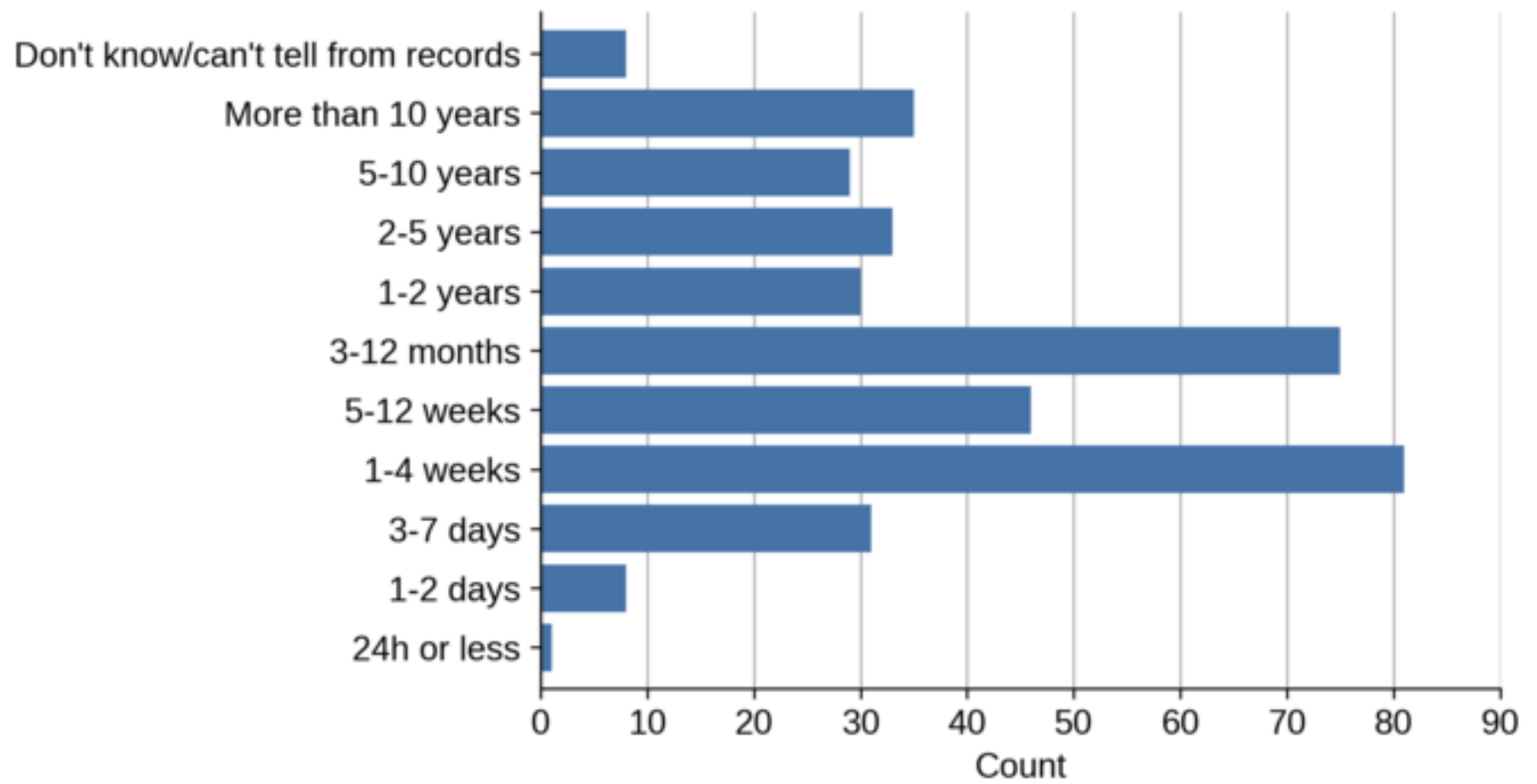
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453 **Supporting information**

454 **S1 File. Questionnaire survey content.**

455







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