Provision of foot health services in rheumatology in the UK

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Objectives. To determine the provision of foot health services in rheumatology for the UK and Northern Ireland. Methods. Two hundred and sixteen rheumatology departments were surveyed by postal questionnaire. Questions covered the contribution of various disciplines to rheumatology out-patient clinics, and opinions on existing and potential services, with emphasis on foot health provision. Inter-regional variations were explored for eight UK regions.

Results. Valid responses were received from 170 respondents (78.7% response rate). More than 80% of out-patient departments reported having rheumatology nurse specialists included in the staff mix but fewer than half used other allied health professionals, such as podiatrists. One quarter of the departments had access to a podiatrist and in 18% there was a foot health service dedicated to rheumatology. Awareness of guidelines for referral or of standards of foot care provision was very low (6%). There was high satisfaction with the adequacy of provision of footwear and insoles (81–87%) but low satisfaction with the adequacy of basic foot care (48–52%). Regional variation was extremely high for the provision of basic foot care (0–73%), the non-English regions reporting poorer provision of service.

Conclusions. Regional variation in the adequacy of foot health services was high and the non-English regions especially are failing to meet the foot health needs of rheumatology patients. Multidisciplinary care is generally well developed despite the composition of teams being highly variable. Fewer than half of rheumatologists reported that basic foot care needs were being met, although adequacy of provision of more advanced foot services is perceived to be better. The absence of nationally agreed standards and poor awareness of local standards may be detrimental to care in this patient group.

Key words: Foot health, Podiatry, Rheumatology, Health services research, Postal survey.
noted to be associated with foot health provision. Where no individual candidate could be identified, the survey was sent to the lead consultant with a cover letter asking the recipient to complete the form him/herself or to pass it on to the colleague best able to provide an accurate response. Recipients who worked at more than one hospital were asked in their responses to consider only the hospital in which they were employed for most of their time.

All responses were anonymized, although envelopes were coded to allow identification of the region of origin, and to send reminders to initial non-responders. The survey was publicized in the BSR newsletter and at the BSR annual meeting to maximize the response rate.

Two drafts of the survey form were piloted at a local and a regional meeting prior to finalization and the form was amended according to feedback.

Forms were mailed along with a reply-paid, addressed envelope in May 2003, and the first response set was closed in December 2003. A second full set of forms and reply-paid envelopes was sent to all non-responders to the initial mail-out, and the final census date following reminders was set as 31 March 2004.

Analysis

Data were entered into SPSS v. 11.0 (SPSS, Chicago, IL, USA) and presented descriptively. Secondary analysis used data aggregated to regions. The current UK health geography has, since February 2004, had more than 50 internal regional boundaries, reflecting the number of strategic health authorities. To simplify the presentation of our data, we aggregated the data according to eight super-regions defined as follows: (i) Scotland (including Orkney and Shetland); (ii) Northern England, encompassing the pre-2002 North West and Northern and Yorkshire regions; (iii) the Midlands, including both the old West Midlands and Trent regions; (iv) the South-West, according to the pre-2002 definition; (v) the South-East, including the pre-2002 South-East and Eastern regions but excluding metropolitan London; (vi) Metropolitan London; (vii) Wales; and (viii) Northern Ireland.

Differential regional data are presented according to these boundaries.

Results

The response rate at the final census from valid returns received (i.e. those that were not returned to sender and had not been sent to BSR members who had recently retired, died or moved) was 170/216 (78.7%). There were between 0.8 and 9.5 whole-time equivalent (WTE) consultant rheumatologists at each of the hospitals surveyed (median = 2.0 WTE), serving a mean population of 394 550 people per hospital. Of the responding hospitals, 81% were secondary centres, the remaining serving as tertiary centres.

The integration of various disciplines into the rheumatology team is presented in Fig. 1. Most hospitals have specialist nurses working in rheumatology outpatient departments (OPD), but fewer than half have allied health professional (AHP) services such as physiotherapy, occupational therapy and podiatry. Other disciplines reported as contributing to rheumatology OPD included dermatology, renal medicine, rehabilitation medicine, orthopaedics, dietetics, pharmacy, psychology and others, all in small numbers. Nearly one in ten (8.2%) departments surveyed had, however, no disciplines involved in their clinics other than the rheumatologists.

Service provision for six basic areas of need were explored and are summarized in Fig. 2a–f. Adequacy ranged from 48 to 87% with more advanced needs being generally better met than basic needs such as nail care and corn/callus reduction.

Overall, 28% of respondents reported having podiatry input into their OPD, and in 18.2% foot care was provided to rheumatology patients by dedicated foot health services. Despite this, few (6.5%) were aware of formal guidelines for referrals to foot health services, either locally agreed or more wide-ranging, such as those of the North West Clinical Effectiveness group [20]. All respondents reporting awareness of referral guidelines were in either the Northern England or South-Eastern regions.

There were wide regional variations in the contribution of foot health services to rheumatology OPD (Table 1). In the North and South-West of England, 36–40% of respondents indicated that podiatrists contribute to their OPD clinics, a quarter having dedicated foot health clinics available. In Wales and Scotland, fewer than 17% had dedicated input, while in Northern Ireland there was no dedicated foot health provision reported at all.

Discussion

This survey represents the largest and most comprehensive study to date of foot health service provision to rheumatology patients in
the NHS. The response rate of nearly 80% was high and replies were received from all regions of the UK. Multidisciplinary care appears well developed in rheumatology, although the specific make-up of multidisciplinary teams is highly variable. It is striking, however, that nearly one in ten respondents reported no multidisciplinary involvement at all in their hospital rheumatology clinics. Provision of foot health services is patchy, and the lack of formal arrangements such as referral pathways and dedicated foot health clinics suggests some discrepancy between NHS priorities and established patient needs.

Regional variations were greater than expected, the non-English regions providing less comprehensive foot health services than most English regions (Figs. 3–6, Table 2).

We have identified previously five areas of foot health service that should be provided as part of a multidisciplinary foot health team in rheumatology [21].

1. Education and self management advice, including footwear advice.
2. Provision of or assistance with finding orthoses and footwear.

| Table 1. Regional variation in foot health service input to rheumatology OPD |
|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|
|                             | Scotland                    | Northern England            | Midlands                    | South-East                  | London                      | South-West                  | Wales                       | Northern Ireland            |
| Podiatry input              | 1 (9%)                      | 19 (41%)                    | 3 (18%)                     | 15 (26%)                    | 4 (25%)                     | 4 (36%)                     | 1 (17%)                     | 0 (0%)                      |
| Dedicated foot service      | 1 (9%)                      | 12 (26%)                    | 1 (6%)                      | 11 (19%)                    | 2 (11%)                     | 3 (27%)                     | 1 (17%)                     | 0 (0%)                      |

The table shows the number (proportion) of positive responses.
3. General foot care, nail cutting, corn and callus reduction, provision of padding.
4. High-risk management of the vasculitic or ulcerative foot.
5. Extended scope practice and surgery.

In this study the provision of foot-related services was reported as being better overall for those services provided either in-house by the rheumatologist/rheumatology nurse, or traditionally associated with the orthopaedic/orthotist role (footwear/insoles/orthoses) than for basic podiatry/chiropody services, such as nail and callus care. Despite previous reports of patient dissatisfaction with and low levels of use of hospital-supplied footwear [7, 18], adequate footwear services were reported to be available to 87% of respondents in our sample. Similarly, more than four-fifths of respondents felt that insoles and orthoses were being adequately provided within the current system, and regional variation was relatively low for these types of service.

Conversely, basic foot health needs were less well met for this patient group, with only half of respondents reporting adequate provision of services within their area. Regional variation was also greatest for this type of basic service, the South-West and North of England providing adequate services more consistently than the non-English regions.

Patients with musculoskeletal conditions have an increased need for a range of basic foot care services. Deformities of the foot associated with joint changes and soft tissue lesions create areas of pressure that result in callus and corn formation [22, 23]. Arthritis in the hands may make foot care and hygiene tasks difficult and spinal involvement can make bending to attend to basic foot care tasks impossible.

It is a cause for concern that there is an apparent misfit between the needs of secondary care-based rheumatology patients and the provision of those basic aspects of foot care that are more usually undertaken in a primary care setting. We have advocated previously for the better integration of foot health services with rheumatology and for the involvement of foot specialists in the multidisciplinary rheumatology team. Extended scope allied health practitioners are being used increasingly and it is clear that, particularly in secondary care, foot services are currently perceived as being acceptable and can be expected to improve further.

Within the secondary care sector we continue to advocate the development of multidisciplinary foot clinics consisting of a rheumatologist, podiatrist and orthotist, along with orthopaedics and physiotherapy as resources permit. The experience of ourselves and others is that these services tap into a considerable unmet need for foot health services and attract referrals for a range of conditions [18, 24]. Intermediary-care musculoskeletal services are developing in many regions, and some include podiatry as part of the team. There are no good evaluative data yet for these new initiatives, but our experiences locally suggest that some benefits accrue from improved interdisciplinary working practices, the development of specialist practitioners and the relatively short waiting times and episodes of care.

Current government initiatives such as the new Long Term Conditions policy [25] are encouraging a shift towards a model of care that anchors ongoing care in the primary sector, with articulation into secondary/tertiary care only for those patients with the most complex or severe needs.

It is our experience that foot health services in primary care can have poor communication links with secondary services such as rheumatology, and the data from this survey highlight that those services provided more usually in primary care are perceived as being less adequate. The low level of awareness of referral guidelines, such as the North West Region guidelines [20].
also suggests a systematic problem that requires coordinated, interprofessional attention. We suggest that nationally agreed standards of care in community foot health services, combined with simple referral guidelines and the establishment of appropriate feedback mechanisms, may serve to improve patient care, reduce regional variation and improve interdisciplinary understanding.

**Conclusions**

Despite good access to more sophisticated foot health services, barely half of the responding rheumatologists consider that their patients’ basic foot health needs are being adequately met. There was considerable regional variation in foot health provision, with the non-English regions performing most poorly, while two regions, Northern and South-West England, appeared to provide more comprehensive services.

Multidisciplinary care appears well developed in rheumatology, and while foot health specialists are only included in one-fifth to one-quarter of rheumatology departments, the adequacy of provision of more advanced foot services is still perceived to be relatively high. The absence of nationally agreed guidelines and poor awareness of local standards appears to be detrimental to the provision of basic foot care for rheumatology patients.

**Rheumatology**

- Foot health service provision to rheumatology patients attending rheumatology out-patients in the UK is variable and largely suboptimal, especially in Northern Ireland, Scotland and Wales.
- The provision of basic foot care services is poorer than that of more sophisticated foot care.

**Table 2. Regional variation in access to services**

<table>
<thead>
<tr>
<th>Service</th>
<th>Scotland</th>
<th>Northern England</th>
<th>Midlands</th>
<th>South-East</th>
<th>London</th>
<th>South-West</th>
<th>Wales</th>
<th>Northern Ireland</th>
</tr>
</thead>
<tbody>
<tr>
<td>Access to nail care</td>
<td>3 (27%)</td>
<td>26 (58%)</td>
<td>7 (41%)</td>
<td>26 (46%)</td>
<td>10 (63%)</td>
<td>8 (73%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>Access to corn/callus care</td>
<td>3 (27%)</td>
<td>28 (62%)</td>
<td>8 (47%)</td>
<td>26 (46%)</td>
<td>10 (63%)</td>
<td>8 (73%)</td>
<td>2 (33.3%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>Access to musculoskeletal foot services</td>
<td>7 (64%)</td>
<td>34 (74%)</td>
<td>14 (82%)</td>
<td>39 (68%)</td>
<td>11 (69%)</td>
<td>10 (91%)</td>
<td>5 (83%)</td>
<td>1 (33%)</td>
</tr>
<tr>
<td>Access to footwear</td>
<td>11 (100%)</td>
<td>39 (89%)</td>
<td>16 (94%)</td>
<td>48 (84%)</td>
<td>15 (94%)</td>
<td>10 (91%)</td>
<td>5 (89.3%)</td>
<td>1 (33%)</td>
</tr>
<tr>
<td>Access to padding/insoles</td>
<td>10 (91%)</td>
<td>38 (86%)</td>
<td>16 (94%)</td>
<td>47 (83%)</td>
<td>16 (100%)</td>
<td>9 (82%)</td>
<td>5 (83%)</td>
<td>1 (33%)</td>
</tr>
<tr>
<td>Access to functional orthoses</td>
<td>7 (63%)</td>
<td>37 (84%)</td>
<td>16 (94%)</td>
<td>46 (81%)</td>
<td>14 (88%)</td>
<td>9 (82%)</td>
<td>5 (83%)</td>
<td>1 (33%)</td>
</tr>
</tbody>
</table>

The table shows the number (proportion) of positive responses.

**FIG. 5. Regional variation in dedicated foot health services.**

**FIG. 6. Regional variation in awareness of referral guidelines.**

**Table 2. Regional variation in access to services**

- Access to nail care
- Access to corn/callus care
- Access to musculoskeletal foot services
- Access to footwear
- Access to padding/insoles
- Access to functional orthoses
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The authors have no conflicts of interest to declare.

References

Appendix 1. Questions used in the survey

1. How many rheumatologists are there in your NHS hospital? ________
2. What is the size of the population in the area covered by your hospital? ________
3. Is your rheumatology department a secondary or tertiary centre? ________
4. Which of the following disciplines currently input directly into your medical outpatient clinics? (i.e. see patients in the same clinic as the rheumatologists – please tick all that apply).

<table>
<thead>
<tr>
<th>Specialist nurses</th>
<th>Physiotherapists</th>
<th>Occupational therapists</th>
<th>Podiatrists</th>
<th>Foot surgeons, orthopaedic</th>
</tr>
</thead>
<tbody>
<tr>
<td>[ ]</td>
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5. Do you have rheumatology outpatient clinics dedicated specifically to providing foot health services for your patients? Y/N
6. Do you have any formal guidelines/protocols for inbound or outbound referral of patients with foot problems? Y/N
7. Do your patients have adequate access to services providing for these needs?
   a. Assistance with nail care Y/N
   b. Reduction (paring) of callus and corns Y/N
   c. Management of musculoskeletal symptoms in the feet and ankles Y/N
8. Do your patients have adequate access to these services?
   a. Provision of footwear Y/N
   b. Provision of insoles and padding Y/N
   c. Provision of functional foot orthoses Y/N