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RESEARCH ARTICLE

Better arthritis care: What training do community-based health professionals need to improve their care of people with arthritis? A Delphi study

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Abstract

Objective: The aim of the present study was to identify the competencies that non-specialist community-based nurses and allied health professionals (AHPs) need to enable them to assess, care for and manage arthritis appropriately.

Methods: A Delphi survey with an expert panel of 43 rheumatology specialists and expert patients was used to identify the competencies needed by community-based nurses and AHPs to enable them to improve their care of people with arthritis. The process was informed by feedback from focus groups with arthritis patients, community-based nurses and AHPs.

Results: The core competencies in arthritis care needed by non-specialist community-based nurses and AHPs were identified. The key goals identified were to increase the understanding of arthritis and its impact on patients' lives, and to increase the ability to help patients to self-manage their condition and access support. Competencies included an understanding of the pathology underlying inflammatory and non-inflammatory arthritis, the ability to distinguish between the two and the ability to recognize early warning signs, with an emphasis on osteoarthritis (OA), rheumatoid arthritis, gout and septic arthritis. Essential competencies included the ability to engage in shared decision making, goal setting and signposting, to provide patients with education and information and to make appropriate referrals.

Conclusions: Health professionals working in the community commonly encounter arthritis as a presenting problem or as a co-morbidity. The quality of care provided to people with inflammatory arthritis and OA in the community is currently variable. The present study identified the core competencies that all community-based nurses and AHPs should have in relation to OA and inflammatory arthritis.

KEYWORDS

allied health professionals, arthritis, community-based, competencies, musculoskeletal, nurses

1 | INTRODUCTION

Arthritis is a common condition that causes pain and inflammation in a joint, affecting people of all ages, including children. Osteoarthritis (OA) is the most common form of arthritis and a leading cause of disability (Arthritis Research, 2014; Cross et al., 2014). Inflammatory arthritis (IA) affects approximately 2% of the UK female population (Arthritis Research, 2014). Health professionals (HPs) working in the community commonly encounter arthritis as a presenting problem or as co-morbidity. However, arthritis management in primary care does

not always meet guidelines (Goodwin, Curry, Naylor, Ross, & Duldig, 2010), and insufficient knowledge of rheumatoid arthritis (RA) and OA can lead to a lack of ability to educate and inform patients (Scott et al., 2008). The National Audit Office (2009) recommended that awareness of RA be improved in primary care. A report by the King's Fund (Goodwin et al., 2010) concluded that the quality of care provided in the community for people with OA and RA is highly variable, often suboptimal and could be significantly improved. It emphasized the need for a better understanding of the condition among primary care professionals and called for a more proactive approach to care

management, with high-quality care for people with arthritis shared across care settings and multi-professional teams.

Community-based nurses, occupational therapists (OTs), physiotherapists, podiatrists and pharmacists routinely encounter patients with arthritis in their clinical practice. Their roles in relation to the care of arthritis and other musculoskeletal (MSK) conditions have been clearly outlined in the MSK Services Framework (Department of Health, 2006); however, there is little evidence on the competencies that these professionals need in order fulfil these roles (Lillie, Ryan, & Adams, 2013; Mann, 2012). A study of nursing and allied health professional (AHP) undergraduates showed a lack of adequate training to meet this need (Almeida et al., 2006). A study of practice nurses showed that confidence, knowledge and the ability to manage MSK conditions was low (Fletcher, Oliver, Cook, & Albrow, 2012). In podiatry and pharmacy, studies have looked at the provision of services (Redmond, Waxman, & Helliwell, 2006), good practice in training and

education (Podiatry Rheumatic Care Association, 2008) and the effectiveness of interventions for arthritis (Marra et al., 2012; Osterhaus et al., 2002) but there is little on the competencies that these professionals need for the care of those with arthritis.

This study sought to establish the competencies needed by non-specialist community-based nurses and AHPs to enable them to assess, care for and manage arthritis appropriately.

2 | METHODS

The study used a Delphi survey, and focus groups and interviews with patients, community-based nurses and AHPs. It used a phenomenological approach to the focus groups and interviews. This approach facilitated the gaining of insights into people's perceptions, perspectives and understanding of receiving and providing arthritis-related

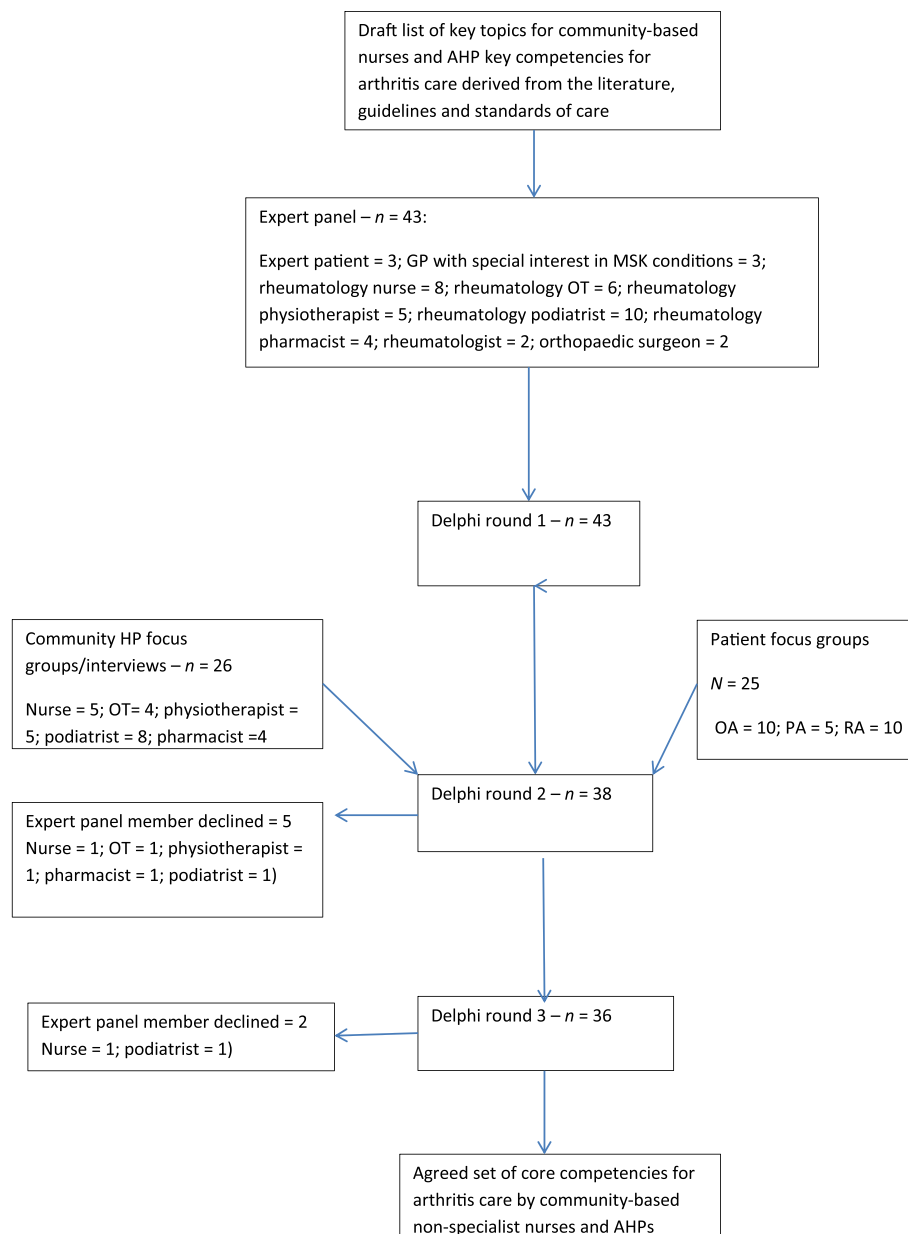


FIGURE 1 Study process. AHP, allied health professional; GP, general practitioner; HP, health professional; MSK, musculoskeletal; OT, occupational therapist; OA, osteoarthritis; PA, psoriatic arthritis; RA, rheumatoid arthritis [Colour figure can be viewed at [wileyonlinelibrary.com](https://onlinelibrary.wiley.com)]

healthcare. The data were collected between June and November 2014. Figure 1 shows an outline of the study process.

2.1 | Recruitment

2.1.1 | Delphi participants

An expert panel of rheumatology specialists and expert patients was established. Panel members were recruited through research and professional networks, patient organizations and professional organizations for HPs with a rheumatology specialism. These included the British Society for Rheumatology, rheumatology specialist/interest groups from the Royal College of Nursing, the College of Occupational Therapists, the Chartered Society of Physiotherapists, the College of Podiatry and the Royal Pharmaceutical Society. A total of 43 members were recruited to the expert panel; the number from each profession is shown in Figure 1.

2.1.2 | Focus group and interview participants

Four face-to-face focus groups were held, with a total of 16 women and nine men with arthritis. These were held in Bristol, Exeter and Cornwall. Participants were recruited to the focus groups through posting on the National Rheumatology Arthritis Society and Arthritis Research UK websites and Facebook pages, posters in general practice (GP) surgeries, advertisements in local newspapers and through local support groups. Two groups were attended by people with IA (comprising RA and psoriatic arthritis [PA]); one group had patients with RA and OA. A fourth group had people with OA only. The age of participants ranged from 28 to 84 years, with varying socioeconomic backgrounds. The focus groups varied in size, the largest having eight participants and the smallest having four. Each focus group lasted approximately 1 h.

Focus groups were established for four of the professional groups – nurses, physiotherapists, OTs and podiatrists. Owing to difficulties in establishing a focus group for community pharmacists, individual interviews were held with these contributors. Participants were recruited to the focus groups and interviews through professional networks, professional organizations for nurses and AHPs, local pharmaceutical committees and local practice forums. The interviews took between 45 min and 1 h. Telephone focus groups and telephone interviews were held with 26 community-based nurses and AHPs (Figure 1).

2.2 | Delphi survey

The Delphi technique has been used to build consensus on essential skills and competencies needed by HPs for the management of a range of conditions, including rheumatological conditions (Broomfield & Humphris, 2001; Hewlett et al., 2008; Rohan, Ahern, & Walsh, 2009). The aim of the present use of Delphi was to obtain a list of recommendations for competencies that community-based nurses and AHPs should have to enable them to care effectively for patients with arthritis.

Guided by previous studies, relevant guidelines and standards of care (Hewlett et al., 2008; National Institute for Health and Care Excellence, 2008, 2013; Podiatry Rheumatic Care Association, 2008; Royal College of General Practitioners, 2015; Stoffer et al., 2015; Woolf, Walsh, & Akesson, 2004; Woolf & Akesson, 2008), the project team

developed a draft list of categories and topics to be considered for inclusion in the training of community-based nurses and AHPs (Table 1).

2.2.1 | Delphi round 1

Using an online survey, the expert panel was asked to consider nurses and AHPs who work in the community and who DO NOT have a rheumatology specialism, to decide what they should know to enable them to care effectively for the patients with arthritis that they encounter in their clinical practice. The panel were offered the draft list of topics (Table 1) as a starting point. The panel was asked to add any other categories or topics not listed that they thought were important or essential. It was asked to rate each topic for the importance of its inclusion ('not important', 'moderately important', 'important' or 'essential'). They were also asked to consider the degree of competency that community-based nurses and AHPs should have in each topic ('knowledge', 'understanding' or 'application').

2.2.2 | Eliciting the views of patients and community-based nurses and AHPs

Patient focus groups

The focus groups participants were asked about their experiences of receiving care for their arthritis from community-based nurses and AHPs, how this care might be improved and what they would want nurse and AHPs who work in the community to know about arthritis. They were also asked to comment on the draft list of competencies in arthritis care for community-based nurses and AHPs which the expert

TABLE 1 Draft list of categories and key topics for inclusion in arthritis training for community-based nurses and allied health professionals

STRUCTURE & FUNCTION: Anatomy; physiology
PATHOLOGICAL FEATURES: Main pathological features
DIFFERENCES BETWEEN COMMON TYPES OF ARTHRITIS: Clinical characteristics of OA, AS, juvenile idiopathic arthritis, PA, gout, SA and other types of arthritis
WARNING SIGNS: Signs and symptoms of IA; red flags
INVESTIGATIONS: Investigations for inflammation; rheumatoid factor test; urate test; other tests (not imaging); X-rays for arthritis; CT scans for arthritis; MRI scans for arthritis
IMPACT: Psychosocial; mental health; mobility & activities of daily living
MANAGEMENT & TREATMENT OPTIONS: Use of analgesics, non-steroidal anti-inflammatory drugs, steroids, disease-modifying anti-rheumatic drugs, anti-TNF/biologics for arthritis; Surgical interventions for people with arthritis; Non-surgical interventions (e.g. joint injections); Self-management; physical activity; specific exercises; joint protection; weight management; how to advise patients on pain management
DISEASE MONITORING FOR ARTHRITIS: Monitoring
FOOTWEAR, AIDS & ORTHOSES: Footwear; adaptive equipment; orthoses
MULTIDISCIPLINARY TEAM & REFERRALS: Multidisciplinary team; referral pathways
PATIENT EDUCATION: Information sources for patients; promotion of healthy lifestyles

AS, ankylosing spondylitis; CT, computed tomography; IA, inflammatory arthritis; OA, osteoarthritis; PA, psoriatic arthritis; SA, septic arthritis; TNF, tumour necrosis factor.

panel had produced in the first round of the Delphi survey. These findings were fed back to the expert panel in round 2 of the Delphi.

Community health professional focus groups

The nurses and AHPs were asked about their experiences of delivering care to people with arthritis, their views on the patients' expectations and priorities (Table 2) and their views on the draft list of competencies produced by the expert panel in the first round of the Delphi survey. The opinions of the participants in the health professional focus groups were fed back to the expert panel in round 2 of the survey.

2.2.3 | Delphi round 2

In round 2 of the Delphi survey, the expert panel was presented with the categories and topics from round 1, plus the additional comments made by members of the expert panel and the comments from the focus groups. The panel was asked to rate the topics again, bearing in mind the views of other members of the panel and the feedback from the patient and community-based HPs' focus groups. Those that were rated as essential or important were taken forward into round 3.

2.2.4 | Delphi round 3

In round 3, the expert panel was presented with the ratings of topics from round 2 and the comments made by members of the panel. The panel was asked to rate the topics again.

TABLE 2 Knowledge and skills that community-based nurses and allied health professionals need to care for people with arthritis – Patient priorities

To understand and be able to distinguish between inflammatory arthritis and OA
To be able to take a holistic approach
To take OA seriously and understand its impact
To be able to advise on the management of OA
To understand the unpredictability of IA
To understand flares
To understand and be able to give basic advice on pacing
To be able to adjust their normal professional practice for people with arthritis (e.g. how to hold and manoeuvre limbs comfortably)
To understand the psychological adjustment needed when diagnosed with IA
To understand the psychosocial impact of arthritis, including impact on friends and family
To understand the impact of arthritis on mental health (e.g. depression)
To understand the kinds of drug treatments that people with IA receive and the implications of taking immunosuppressive drugs
To understand the pain associated with arthritis
To be able to advise on pain management
To be able to signpost people to sources of help (e.g. self-management programmes, expert patient programmes, support groups, advice lines)
To be able to signpost people to good, reliable sources of education and information
To be able to make multidisciplinary referrals and to communicate effectively between referral points
To understand that patients who have had a diagnosis for a long time know best about their own disease
To have good communication skills

IA, inflammatory arthritis; OA, osteoarthritis.

2.2.5 | Health education stakeholder interviews

Telephone interviews were conducted with 4 key personnel responsible for making decisions on the training offered to community based health professionals. The interviewee asked for views on possible barriers and facilitators to providing arthritis training to community based nurses and AHPs. The interviewees were a senior lecturer in district nursing, and from community health care organisations, a professional lead, a training manager and a clinical training lead. The interviews were conducted by a researcher (JE), three by telephone and one face-to-face; the interviews were recorded and transcribed for later analysis.

2.3 | Data analysis

There is no agreement in the literature on Delphi studies as to what constitutes consensus (Keeney, Hasson, & McKenna, 2006). The decision was made that consensus for inclusion was on the basis of whether 80% of the panel members rated the topics as important or essential. In Delphi rounds 2 and 3, the expert panel was given the percentage agreement and measure of the central tendency (mode). Only those topics that were rated as important or essential by 80% of the panel were carried through from round 2 to round 3 of the Delphi. The final topics and competencies were those that were rated as essential by 80% of the expert panel. These are listed in Table 3; please note that, in contrast to the ratings of other professions, the competency "To have knowledge of common surgical operations available for individuals with IA and OA" was not rated as essential by 80% of community pharmacists.

The data from both the individual interviews and the focus groups were transcribed verbatim. The data were analysed by a researcher (J.E.) using thematic analysis. Initial codes were generated, and themes identified, reviewed and defined. Five of the transcripts were also coded by another researcher (K.E.). Final themes were refined through discussions between J.E. and K.E. The final codes and themes were reviewed by A.W.

3 | RESULTS

3.1 | Patient focus groups

As an outcome of the focus group, a list of patient priorities was produced (Table 2) which was shared with the expert panel. The participants' views are described in more detail in Erwin et al (in press).

3.2 | Community health professional focus groups

3.2.1 | Experience in caring for people with arthritis

Nurses and AHPs reported that they dealt mainly with OA patients and sometimes patients with RA or gout. Other types of IA were encountered much less frequently. When caring for people with OA, their focus is on symptom control, pain management and functional ability. Across the professions, it was felt that, in contrast to those with IA, there is a lack of management advice for people with OA; they often do not get access to the full range of management options from their

TABLE 3 Core competencies in arthritis care for community-based nurses and allied health professionals

Core knowledge to support the diagnosis and management of OA and IA
To have core knowledge of MSK anatomy and relevant structure and function to support diagnosis and management of OA and IA
Common pathological processes to support diagnosis and management of OA and IA
Main characteristics of OA and common forms of IA
Assessment skills
To have a holistic approach to the patient
To be familiar with diagnostic tests for arthritis and with the monitoring of disease
Application of assessment skills to arthritis
Ability to distinguish between IA and non-inflammatory arthritis
Ability to identify and characterize OA
Ability to identify and characterize RA
Ability to identify and characterise SA
Ability to identify, characterize and manage gout
Understand and characterize the signs and symptoms of AS
Knowledge of MSK red flags
Knowledge of MSK red flags and referral
Understanding of the impact of OA and IA on the individual, family and friends
Impact on participation and relationships
Impact on mental health
Impact on physical health
Principles of management
To understand the principles and theoretical basis of self-management in the care of people with OA and IA
To understand the principles of pain management in the care of those with OA and IA. To include understanding pain management strategies that use pharmacological and non-pharmacological approaches and that can be applied in any context, including work
To have knowledge of simple analgesics and NSAIDs, and how to give advice on their use
To have knowledge of the use of corticosteroids for OA and IA
To have knowledge of DMARDs and their use for IA
To have knowledge of common surgical operations available for individuals with OA and IA ^a
To have knowledge of other non-surgical interventions
Multidisciplinary teams and referrals
To know the roles of the members of the multidisciplinary team and local referral pathways
Footwear, adaptive equipment and appliances
To know the issues around foot health and footwear for people with OA and IA
To have knowledge of adaptive equipment and appliances for people with OA or IA
Patient education
Signpost and advise patients

AS, ankylosing spondylitis; DMARD, disease-modifying anti-rheumatic drug; IA, inflammatory arthritis; MSK, musculoskeletal; NSAID, non-steroidal anti-inflammatory drug; OA, osteoarthritis; RA, rheumatoid arthritis.

^aCompetency not ranked as essential by community pharmacists.

GP and may return to their GP multiple times in an effort to cope with their condition:

Because of the demographic, we'll be seeing a lot of people with OA changes. We are not skilled in

understanding or working with the mental health effects of LTCs [long term conditions] like OA or rheumatoid [arthritis]. Being time limited, it's very difficult to be as holistic as you can because what you're trying to do [is] to offload a deformed foot or to make sure there is no excessive loading of an area, and you are working on those sorts of things; then, you're not seeing the whole patient or treating some of the psychological implications of an LTC like that - we just don't have time to do everything. (Podiatrist)

I find a lot of people with OA don't get much access from their GP for the full conservative management of OA. I think it's mainly a time issue with their appointments. The GP usually just prescribes some sort of pain relief. A lot of our clients have been back to their GP multiple times and [are] having to cope with their condition. The main challenges facing these [OA] patients is that they don't know how to manage their condition; their pain is not very well managed with medication and they just feel that they don't have many other options. (Private practice physiotherapist)

3.2.2 | Views on patients' priorities

All community-based HPs felt that the patients' priorities and expectations (Table 2) were reasonable and realistic:

I think the patients' views are very realistic and that's probably where I am, unless I have a particular patient with a problem, and then I'll go a bit more in-depth. I hope I would be able pretty much to fulfil those patients' needs. Looking at where I am now and being able to gen up quite quickly. (Nurse)

Good communication and being handled respectfully and gently were seen as basic good practice that all patients should expect:

We might know what we are doing but we don't communicate that much to them [patients]. We don't ask them enough questions about the problem. We make too many assumptions about what it probably is, rather than letting them tell us; and then at the end, having made all these wise decisions, we don't actually tell them what we've been thinking. We say, do this, do that, and don't tell them why. If you do that, at the end of it they feel, yes, I understand that and they feel happier. That kind of communication makes all the difference. (Podiatrist)

The need for a holistic approach was acknowledged but was sometimes difficult to achieve in practice:

Working under the pressure, just go in and do the job and often don't have time me to look at the wider picture, and some of the things on the patients' list are reflecting the wider picture. (OT)

I think that one thing that might be underestimated by practitioners is the mental health aspect of having, you know ... like with any chronic, debilitating disease, I don't think it's something that's often brought [up] - I don't think patients are - they've put there about being treated holistically and I think that's a really good point because I don't think we do treat them holistically, and I don't think we often take into account the amount of pressure they're under really, and how the pain does impact them and impact on their mental health. (Nurse)

Some elements were seen as beyond the remit of certain professional groups. For example, podiatrists were unwilling to become involved in pharmacological management and would refer patients to their GP for that (although they acknowledged that this might change in the future, with changes in prescribing rights for podiatrists).

3.2.3 | Views on the expert panel's draft list of competencies

There was a view expressed by some community-based nurses and AHPs that the draft list of competencies put forward by the expert panel in round 1 of the Delphi was too detailed for generalists and was more consistent with acute rather than community-based care:

This is what an expert needs to know, this is not what I need to know as a community therapist. (OT)

Now, the pressure is for OTs to be more generic - they want patients to be kept at home, not in hospital, and I don't know whether that de-skills us, and I think unless you're in a specialist role, you won't be asked to be this specialist in arthritis. Need to have a baseline and to know the experts in your area. (OT)

I think the one from the rheumatology panel, a bit like generalists always find... I have the same sort of list, whether it be the pressure ulcer focus or alcohol focus. It's always going to have this huge list attached to it and, like I say, I'd never be able to absorb or maintain the expertise in that area unless you have a patient that's very active and you're dealing with that knowledge all the time. (Nurse)

The list is too long. Just need to pick out a few things that would have an impact, so, obviously, knowing about the diseases, knowing about the medication and how it works, when to refer, the side effects, drug interactions - these are the key things. (Community pharmacist)

It was highlighted that arthritis is just one of the many conditions for which that they are expected to have a working understanding, and that the emphasis should be on competencies that are essential.

3.2.4 | Anatomy, physiology and pathology

The need for a basic knowledge of anatomy and physiology was acknowledged across the professions. Physiotherapists felt they needed an extensive understanding of anatomy and physiology in order for them to be able to manage arthritis and problems such as referred pain. They suggested that the training should include more on tendinopathy and degenerative changes in tendons. OTs felt that knowledge of anatomy, physiology and pathology was important, in order to be able to provide appropriate self-management advice to patients. Highlighting the immunological aspect of the disease was seen as very important:

I think, certainly, the thought about [the] immune system and how it affects the whole body, that, you know, you could become quite sort of joint focused and then, obviously, sort of seeing how people are exhausted and fatigued and that sort of thing does remind you that we're not just dealing with a problem of pain here, we're dealing with other areas. (Nurse)

3.2.5 | Knowledge of IA other than RA

The general view across the AHPs was that, in addition to OA and RA, they should know that other types of common IA, such as PA, exist but that they should not be expected to carry details about them in their heads. An exception to this was gout, which is seen relatively frequently in primary care and the community. Many patients self-manage this condition successfully but with some, particularly elderly patients with co-morbidities who cannot take anti-inflammatory drugs, gout can be very difficult to manage, so more training on gout would be helpful.

3.2.6 | Facilitating early diagnosis

It was agreed that front-line nurses and AHPs could have a potentially important role in recognizing the signs of arthritis and facilitating early diagnosis. Training in how to distinguish between signs indicating OA and those indicating IA, particularly in older patients, who sometimes have a number of co-morbidities, was welcomed. Community pharmacists highlighted their accessibility. However, in general, they did not feel confident in being able to distinguish between signs indicating OA and those indicating IA:

It's pretty tricky to distinguish between OA and inflammatory arthritis just by talking to a patient. I wouldn't like to say that's what you've got. I might want to refer them to their GP if they have symptoms that might indicate OA. (Community pharmacist)

Physiotherapists felt that it was important to be able to pick up on warning signs:

I think you need to be able to pick up on warning signs of people who are at poor prognostic risk of developing disability from their arthritis. You need yellow and blue flags. I understand why the focus is on inflammatory [arthritis] but these markers we will pick up early.

Behavioural changes in the early stages can optimize function and minimize disability in this patient group. That way, we can prevent de-conditioning. (National Health Service [NHS] physiotherapist)

3.2.7 | Tests

All professional groups agreed that it was appropriate to expect them to have some knowledge of why tests are done but they did not think that they should be expected to be able to interpret diagnostic tests. Nurses emphasized that, while they might be able to take the blood sample and explain why a test was performed, its interpretation was the role of the GP or specialist. However, some felt that they should know the indicators of poorly controlled IA, to enable them to signpost people appropriately:

I think you need to know what the tests mean and what particular factors in the tests you're looking for. Need to know tests so you know what you require from GP. (NHS physiotherapist)

I wouldn't expect to know about a urate test but would expect to know what investigations that patient has had. Or if the patient asked me: "What is an ultrasound test? Do I have to go dressed or undressed?" I could answer that in simple terms. (OT)

Occasionally, a patient may come with the results of their blood test and ask us to decipher them but, quite frankly, we can't do that. We know the ranges for certain conditions but we wouldn't know what to tell the patient. If they have something seriously wrong, it's not our job to explain it to the patient. We ask the patient to go back to the person who ran the test. (Community pharmacist)

To be honest, if I had ... in my situation if I had somebody who had something that looked like RA, I would tell them, just go to your GP and tell him I think I may have RA. And they'd take it from there. I don't actually know what a urate test is, for example. I don't know all the investigations they would do for inflammation. If they had inflammation, swelling and [the] possibility of RA, I would just say, go to the doctor. (Private podiatrist)

3.2.8 | Impacts of arthritis

All the professional groups felt that they should have knowledge and understanding of the psychological, social and physical impact of arthritis. It was felt that working in a community setting gave greater opportunities to identify the impacts. The psychological aspect of arthritis was raised as a particular area of training need, and members of all the professional groups highlighted the need for more training to understand the mental health impacts of OA and IA. Some of the physiotherapists recommended adding the impact on work to the

training, and, in particular, fitness for work assessments for the early detection of yellow flags and work issues.

Podiatrists spoke about the challenges of dealing holistically with arthritis and their own perceived lack of skill in understanding or working with the mental health effects of long-term conditions like OA or RA. Nurses and podiatrists commented that, owing to time limitations, they were forced to focus on specific physical problems, rather than addressing some of the psychological implications of a long-term condition such as arthritis. The OTs also felt that, although their training in physical and mental health prepared them to understand and address psychological and psychosocial issues, they were often working under pressure and so did not have time to look at the wider picture:

As to looking at the psychosocial impact of inflammatory arthritis or OA, some OTs would explore it, some wouldn't, but it fits in with the role of OT. In a community setting, we are in a good place - spending time in people's home, we can pick up their signals more. It takes a while for the patient to adjust and realize the impact on their life. (OT)

It was felt that, across the AHPs, there was a lack of appreciation of the how pain affects patients' mental health. Community pharmacists felt that this aspect was currently missing from their training, which tended to concentrate on the conditions and their treatments. They said that they were used to dealing with depression but were less attuned to the other less obvious impacts of arthritis.

3.2.9 | Medicines for arthritis

Nurses, OTs and physiotherapists highlighted immunosuppressive drugs and the drugs given to people with IA as areas for further training. OTs felt that they needed to know more about how these drugs affect daily function. All of the professional groups agreed that training on simple analgesics and non-steroidal anti-inflammatory drugs should be included. For discussions around the use of live vaccines, they expected to refer the patient to a rheumatology specialist nurse. Community nurses and physiotherapists felt that it was reasonable to expect them to understand the use of injections and their role in management, and to be able to discuss with patients their expectations of the effects of these. For drugs used for IA disease control, community-based health professionals said that they often relied on the patient's knowledge and experience, and would recommend that patients seek guidance from their rheumatology nurse. There were mixed views on how aware nurses and AHPs should be of the effectiveness of medications such as disease-modifying anti-rheumatic drugs (DMARDs) and anti-TNFs, and of the major changes in the pharmacological management of RA:

I'm not sure how much we need to know about DMARDs etc. In GP practice, [we] can consult letters from the consultant. In private practice, this isn't so easy to do but patients often know a lot about their own medication. Don't see many people with IA, so don't feel [I have] to know all the issues around DMARDs - if [I]

had patients with IA who were on these drugs, [I] would go and look them up. (Private physiotherapist)

Understanding drug treatment and immunosuppressive drugs? [I] just need to touch on this - [I] don't need to know too much about this as an OT. (OT)

Nurses and physiotherapists alike pointed out that, as patients with IA were relatively rare, rather than trying to hold detailed information in their head, they would research National Institute for Health and Care Excellence guidelines and other sources of information when they had a patient with the condition. An area of concern expressed by nurses in regard to treating people with arthritis was the contraindications of medicines. This was identified as an area for further training. Community pharmacists felt that they had an important role in giving evidence-based advice on over-the-counter and complementary medicines in the treatment of OA, and could help in the management of OA through evidence-based use of medicines. They also stated that they needed to be fully aware of and able to help with aids to overcome the manual dexterity problems that could affect compliance in patients with arthritis.

3.2.10 | Providing advice on self-management

The importance of supporting patients over a period of time and seeing them regularly in order to support changes in behaviour, lifestyle and habits was emphasized. This was seen as a natural role for HPs working in the community. Knowing how to provide basic self-management advice for people with arthritis, and particularly for those with OA, was seen as a key area of training. It was also emphasized that community-based HPs need to give consistent messages, to avoid confusing patients:

Key is self-management with an emphasis on exercise, behavioural change and motivational support. It's important that [we] can think about goal setting for patients, not just with their physio exercise, but with life in general. It's important to support patients over a period of time, seeing them regularly, in order to support changes in behaviour, lifestyle and habits. This is absolutely fundamental. (NHS physiotherapist)

I think we would benefit from more training in self-management. When I talk to patients, I talk about how arthritis affects them, and the medication and how it affects them. Health professionals need to make sure that patients understand what they are taking, why they take them and how it affects their body. Need to encourage patients to ask questions. Need to be aware of side effects and aware of their own condition, so not just nodding their head and saying "Yes". Help patients to own their condition and how it affects them because it affects everyone differently. (Podiatrist)

3.2.11 | Pain management

Nurses commented that when dealing with complex cases with a number of co-morbidities, managing pain may fall to the bottom of the

priority list. They stated that this may be particularly true of chronic pain because it is always there but the emphasis should be on dealing with emergencies and high-level care. Podiatrists also pointed out that, while they recognized the importance of pain management and the emphasis given to it by patients, in current podiatry services risk (e.g. the risk of losing a limb), rather than pain, is the determinant for treatment. This may mean that podiatrists miss the opportunity to do more prevention work. Nurses highlighted the need for further training in managing pain within the restrictions of co-morbidities, polypharmacy and contraindications. OTs also mentioned the need to learn more about managing chronic pain and understanding its effects. Community pharmacists recognized that, for people with OA, they were an important source of help and advice on what patients could do to help themselves, and pain control. They also felt that they had an important role in giving advice to patients on appropriate dosing schedules for pain relief.

3.2.12 | Handling patients appropriately

The appropriate handling of patients was recognized as important and something that patients should expect:

For colleagues who are handling the patients, especially when they are handling the types of arthritis, to be aware that even a gentle touch can cause pain. Everybody's arthritis affects them in different ways, also depends on what medication they are on. It's just a case of really listening to patients. The consultant may have the clinical experience but the patient lives with it every day - they know how it affects their body and what works. (Podiatrist)

3.2.13 | Communication between the multidisciplinary team (MDT) and referrals

All agreed that signposting, onward referral and where to find support were all important parts of their toolkit for every patient, regardless of condition. It was agreed that community-based HPs need to have a baseline level of knowledge of the role of experts in their area, and the pathways and criteria for referral. They agreed that the communication loop between professionals can be fairly poor and that this should be a matter to be highlighted for discussion in any training.

Podiatrists felt that they needed more training on the clinical features in patients with RA or other forms of IA that would require referral back to the GP or rheumatologist. For example, if a patient is having flares repeatedly, should s/he be referred back to the GP? Pharmacists in particular said that they felt isolated from other members of the MDT and needed more understanding of the roles of the various AHPs. They felt further distanced because they were not able to make referrals and could only suggest that patients sought help from other members of the MDT. Changes in the organization of health services have led to changes in referral pathways and in communication between various health organizations. The health professionals agreed that the communication loop between professionals can be poor and that this should be a matter to be highlighted for discussion in any training:

GPs often refer patients to OTs without fully knowing what OTs do! (OT)

I feel we have little to do with other parts of the umbrella looking after patients, and for podiatry I feel we are quite isolated. We have patients come in through the door, [and] we have a short space of time with them. We try to address these problems the best we can. (Podiatrist)

3.2.14 | Accessing information and providing key messages

Nurses, pharmacists and physiotherapists commented on the important role they had in signposting patients to appropriate sources of help and advice in the community. All professions felt that they needed to know more about how to access information on wider support for patients such as education, support groups, exercise classes, social care, mental health support and advice lines. It was felt that this is particularly an issue for those in private practice, who may be somewhat "out of the loop":

Yes, I think we need to be able to access information more easily – for instance, I didn't even know about the expert patient programme available here until today! (Private physiotherapist)

Participants highlighted the need for further sources of information for people with OA. It was pointed out that some of the current phrases used to describe OA, such as "wear and tear" are not helpful and that more training in how to provide key messages to people with OA would be appropriate:

The lady with RA I was caring for was very knowledgeable and was teaching me – what was good for her [and] what was bad for her ... fatigue management, everything. I think it's different with OA, which patients are less informed about and [is] seen as a lesser condition in some ways. (Nurse)

Some participants commented on how changes to the organization of the NHS – for example, the loss of primary care trusts (PCTs) – had made obtaining information on sources of support for patients more challenging, and that training in how to find resources would be helpful:

We definitely need more on that because since the PCTs went and CCGs [clinical commissioning groups] have taken over, everything is very sketchy. It's difficult to know what's going on. If patients come in and they are in a lot of distress, we try to find sources of support for them. I think the problem is that things are there but we just don't know about them. (Community pharmacist)

Luckily, now most of the pharmacies have the internet, and the bigger businesses have a list of organizations – you can show them [patients] which websites are good for them. Not everyone is internet savvy but if you can open it up and show them, then that gives them a little bit of

support. We have leaflets but often they are well out of date. You can even give them a contact number for the organizations. We try to use these expert groups because people need more than 5 or 10 minutes sometimes to get to grips with things. (Community pharmacist)

3.3 | Expert panel

The core competencies that all community-based nurses and AHPs should have, as agreed by the expert panel, are shown in Table 3.

3.4 | How training should be delivered

The Expert Panel, community health professionals and training professionals had a number of suggestions about the delivery of training. It was recognised that health professionals can suffer from an overload of information and it was emphasised that training need not be too in-depth but should concentrate on what the health professional needs to know to support and care for their patient. Having the involvement of patients was suggested in order to give health professionals a better understanding of the impact arthritis has on patient lives and to enable trainees to see clinical characteristics and examples of altered anatomy.

The training professionals felt that interactive workshops were most effective – a short sharp burst of information followed by some interaction and discussion. Health professionals emphasised the importance of the training being carefully pitched and relevant to practice. They suggested a variety of training options including mandatory one day training, tool kits and information packs and websites with access to information, evidence based good practice and recommendations. A number of health professionals emphasised the value of training together with members of the multi-disciplinary team, bringing together knowledge and different approaches and allowing for a deeper understanding of professional roles.

The use of different levels of training was suggested by some members of the Expert Panel, the training professionals and by nurses, occupational therapists and podiatrists in the focus groups. It was suggested that it may be effective to train a person in the team who has a special interest to a higher level and that s/he can act as link person and a source of advice for colleagues using a similar model to infection control nurses.

There were mixed views on e-learning among the health professionals. Some thought it useful for its accessibility and flexibility others missed the opportunity for interactivity. How the on-line training is presented is seen as very important – it must be lively and engaging with a variety of presentations including aural and videos. It needs to be relevant to practice (using case studies where possible), succinct but with good links to trusted outside sources to further information. Training professionals emphasised the need to embed and contextualise e-learning by giving health professionals the opportunity to meet and discuss their e-learning after taking the course. Webinars were also mentioned as a mode of delivery that has increasing potential as it offers the advantages of access of e-learning together with some level of interaction. Participants suggested on-line training together with a local or regional clinical workshop preferably with participants from the MTD with joint and profession specific sessions.

Such training would present an opportunity to find out more about the MTD so health professionals (and in turn patients) have realistic expectations. The training would need to be delivered by an expert in the field who understands the MTD roles and the differing ways in which they in turn interact with patients.

Barriers and facilitators for training

The barriers to training cited by community based health and training professionals can be considered at 3 levels- the organisation, the team and the individual. Focus group participants and interviewees pointed out that in general the barriers and facilitators for arthritis training are not arthritis specific but reflect issues around training in general for community based health professionals. Access to training varies across the country and across professions. Access to rheumatology specialists for advice and in-house training also varies widely.

Organisation

For training to be run it needs to have top level sign up. Barriers may include the cost of providing the training, the cost of time release for staff to attend the training, competing national and local priorities and the importance of the training in comparison to other areas. Decisions on what training community based clinicians should receive should be based on best practice and available evidence however community health organisations differ considerably in the degree to which the process of choosing training is formalised. Moreover the frequency of organisational change in recent years presents challenges to developing and maintaining a well recorded programme of CPD and professional practice. When choosing priorities a choice may have to be made between arthritis, (common and non-fatal) and a condition which is common and fatal. Arthritis is not national priority and is not part of the Commissioning for Quality and Innovation (CQUIN) payment framework. However given the relationship between arthritis and frailty, which is a national priority and the link between arthritis and falls, arthritis can be argued to be a key learning priority for most clinical groups. The interviewees felt that with the current pressures in terms of service delivery that it would be hard to make arthritis a priority and that it would be more realistic to include arthritis training in existing training programmes such as medicines management.

Team

For many community teams there is too much work and not enough staff. There is little capacity to release people to attend training as providing clinical care is the first priority. When there are particular pressures on the service training may be seen as a luxury instead of a core activity to maintain and improve quality standards. There is a considerable amount of mandatory training that needs to be covered across a wide range of subjects and the impact on the team of taking a person out for training may be a barrier. There may be positive and negative drivers for teams to seek training in arthritis for example a rise in patient complaints or a team leader with a particular interest in the condition.

Individual

Individuals have to undertake a wide range of statutory and mandatory training. Barriers to additional training may be due to pressure of work and low morale leading to a lack energy or inclination. The geographical area where one works is also a factor- in a big city it may be easy to reach the training location but in more rural areas it may involve travelling long distances. The pressures on the individual associated with organisational change such as increased workload and changes in work practice are also seen as significant barriers to training uptake. Organisational changes such as the loss of PCTs have also created difficulties in individuals finding out what training is available. Physiotherapists and podiatrists who work in private practice found cost an important consideration, not just in terms of the actual cost of the course itself but also the cost of lost income and travel. Community pharmacists tended to have more access to free or low cost training through their local forums but this was provided in the evenings or weekends and so formed an additional commitment over and above their normal working day. For single handed private practitioners accessing training caused particular difficulties.

4 | DISCUSSION

To ensure that people with arthritis receive the care they need, and consistent self-management and lifestyle messages, it is important that all of the healthcare providers with whom they may have contact are familiar with arthritis, and its impact, diagnosis and management. Drawing on the views of rheumatology specialists, community-based HPs and those living with arthritis, core competencies in arthritis care for community-based nurses and AHPs were identified. It was agreed that HPs need to increase their understanding of arthritis and its impact on patients' lives and to increase their ability to help patients to self-manage their condition and access all the means of support available to them. Competencies needed include a basic understanding of the pathology underlying IA and non-inflammatory arthritis, and the ability to distinguish between the two and to recognize early warning signs, giving prominence to the more commonly encountered conditions such as OA, RA and gout and the less common but potentially fatal septic arthritis.

The provision of holistic care with the support of self-management is a core component of the community-based management of long-term conditions (Goodwin et al., 2010). The successful support of self-management is dependent on the HP being able to understand the impact of arthritis on the patient, their family and their friends, so that they can work with the patient to find the best ways for that individual to manage their condition and to identify those issues that may motivate them to make behavioural changes. Community-based nurses and AHPs often see patients and their carers in their own environment and therefore have a valuable opportunity to build a full picture of their patients' lives and how best to support them. Essential competencies relating to this role are the ability to engage in shared decision making, goal setting and signposting, and to provide patients with education and information so they can learn more about their condition and how they might manage it.

Patients diagnosed with IA are mainly treated in secondary care and have little ongoing care from community professionals. However,

community nurses and AHPs can play an important role in early diagnosis, which is crucial to the long-term health and well-being of those with IA. These HPs are in the position to be the first line in identifying the signs and symptoms of inflammatory arthropathies and emergencies such as septic arthritis. An awareness of the common forms of arthritis as a diagnostic possibility and the ability to distinguish between OA and IA would greatly enhance early referral and diagnosis. This is particularly important for nurses and AHPs in the community who work with older people as their symptoms may be overlooked or wrongly ascribed to other conditions.

A core competency agreed by all participants is that community nurses and AHPs should have knowledge of the roles of the various professions, what they may have to offer to those with OA and IA, how to refer to them and what resources there are for their patients in the wider community. Having consistency in the messages given by different professionals is vital if patients are to be supported effectively to take a more active role in the management of their own condition. Good networks with rheumatology specialists were seen as essential; however, the ease with which community-based nurses and AHPs could access advice from these specialists appeared to differ widely by profession and by organization.

In relation to delivery of training preference was indicated for web-based learning together with multi-disciplinary clinical workshops using case studies and perhaps involving expert patients. This training may be offered at different levels of complexity and may be presented in a modular form to fulfill the specific needs of health professionals working in different roles. The study identified generic barriers to training such as cost and time. However arthritis faces a greater barrier because it, despite being a common, debilitating, long term condition, is not a national priority and must compete with national priorities in a time of significant financial restraints and pressures on the workforce. An emphasis on the relationship of arthritis to national priorities such as fragility and the development of training modules that can be integrated into other programmes may offer a way to increase training opportunities.

The strengths of the present study were the wide range of rheumatology specialist and community-based HPs consulted and the inclusion of patients' views. A weakness was that AHPs were not equally represented on the expert panel; there was an under-representation of community pharmacists and an over-representation of podiatrists. Another weakness was that although patients and community-based HPs gave their feedback on the first round of the Delphi and the comments of the experts, they were not invited to discuss the final version of the competencies which were agreed on by the expert panel. Their contribution would have helped to confirm that the views of the experts and the community-based HPs were aligned.

As people with long-term conditions are being treated increasingly in the community, new ways of delivering services are being developed and the roles of community-based nurses and AHPs are changing. For example, the wider adoption of musculoskeletal interface services has seen an extension of roles, particularly for physiotherapists (Hussenbux, Morrissey, Joseph, & McClellan, 2015). The roles of a "community-based nurse" or a "community-based occupational therapist" vary widely and the skills and knowledge they need depend on what is clinically relevant to their practice. A wider consultation within

professions is needed to identify what can and should be included in profession-specific training. The accessibility of community pharmacists provides the potential for an increased role in meeting the needs of patients with arthritis. Whether community pharmacists would welcome this, and the services that they think they are best suited to deliver, is an area which warrants further investigation.

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REFERENCES

- Almeida, C., Clarke, B., O'Brien, A., Ryan, S., Kay, L., & Hewlett, S. (2006). Current provision of rheumatology education for undergraduate nursing, occupational therapy and physiotherapy students in the UK. *Rheumatology*, 45(7), 868–873. <https://doi.org/10.1093/rheumatology/kei008>
- Arthritis Research, U. K. (2014). *Musculoskeletal health: A public health approach*. London: Arthritis UK.
- Broomfield, D., & Humphris, G. M. (2001). Using the Delphi technique to identify the cancer education requirements of general practitioners. *Medical Education*, 35(10), 928–937.
- Cross, M., Smith, E., Hoy, D., Nolte, S., Ackerman, I., Fransen, M., ... March, L. (2014). The global burden of hip and knee osteoarthritis: Estimates from the Global Burden of Disease 2010 study. *Annals of the Rheumatic Diseases*, 73(7), 1323–1330. <https://doi.org/10.1136/annrheumdis-2013-204763>
- Department of Health. (2006). *Musculoskeletal Services Framework*. Retrieved from http://www.susanoliver.com/pdf/MSF_Final.pdf
- Erwin, J., Edwards, K., Woolf, A., Whitcombe, S., & Kilty, S. (in press). Better arthritis care: Patients' expectations and priorities, the competencies that community-based health professionals need to improve their care of people with arthritis?. *Musculoskeletal Care*. <https://doi.org/10.1002/msc.1203>
- Fletcher, M. J., Oliver, S., Cook, A., & Albrow, H. A. (2012). An investigation into practice nurses' need for further education in musculoskeletal care. *Practice Nursing*, 23(1), 40–46. <https://doi.org/10.12968/pnur2012.23.1.40>
- Goodwin, N., Curry, N., Naylor, C., Ross, S. & Duldig, W. (2010). *Managing people with long term conditions*. London: King's Fund. Retrieved from <http://www.kingsfund.org.uk>
- Hewlett, S., Clarke, B., O'Brien, A., Hammond, A., Ryan, S., Kay, L., ... Almeida, C. (2008). Rheumatology education for undergraduate nursing, physiotherapy and occupational therapy students in the UK: Standards, challenges and solutions. *Rheumatology*, 47(7), 1025–1030. <https://doi.org/10.1093/rheumatology/ken139>
- Hussenbux, A., Morrissey, D., Joseph, C., & McClellan, C. M. (2015). Intermediate care pathways for MSCs – Are they working? A systematic review. *Physiotherapy*, 101(1), 13–24. <https://doi.org/10.1016/j.physio2014.08.004>
- Keeney, S., Hasson, F., & McKenna, H. (2006). Consulting the oracle: Ten lessons from using the Delphi technique in nursing research. *Journal of Advanced Nursing*, 53(2), 205–212. <https://doi.org/10.1111/j.1365-2648.2006.03716.x>
- Lillie, K., Ryan, S., & Adams, J. (2013). The educational needs of nurses and allied HPs caring for people with arthritis: Results from a cross-sectional

- survey. *Musculoskeletal Care*, 11(2), 93–98. <https://doi.org/10.1002/msc.1035>
- Mann, C. (2012). Recognising and meeting the needs of people with osteoarthritis. *Primary Health Care*, 22(7), 32–39. <https://doi.org/10.7748/phc2012.09.22.7.32.c9268>
- Marra, C. A., Cibere, J., Grubisic, M., Grindrod, K. A., Gastonguay, L., Thomas, J. M., ... Esdaile, J. M. (2012). Pharmacists-initiated intervention trial in osteoarthritis (PhIT-OA): A multidisciplinary intervention for knee osteoarthritis. *Arthritis Care & Research*, 64(12), 1837–1845. <https://doi.org/10.1002/acr.21763>
- National Audit Office. (2009). Services for people with rheumatoid arthritis. Retrieved from <http://www.nao.org.uk/report/services-for-people-with-rheumatoid-arthritis>
- National Institute for Health and Care Excellence. (2008). Osteoarthritis: The care and management of osteoarthritis in adults. NICE guidelines [CG59]. Retrieved from <http://www.nice.org.uk/guidance/CG59>
- National Institute for Health and Care Excellence. (2013). Rheumatoid arthritis in over 16s. NICE quality standard [QS33]. Retrieved from <https://www.nice.org.uk/guidance/qs33>
- Osterhaus, J. T., Dedhiya, S. D., Ernst, M. E., Osterhaus, M., Mehta, S. S., & Townsend, R. J. (2002). Health outcomes assessment in community pharmacy practices: A feasibility project. *Arthritis and Rheumatism*, 47(2), 124–131.
- Podiatry Rheumatic Care Association. (2008). Standards of care for people with musculoskeletal foot health problems. Retrieved from <http://www.prcassoc.org.uk>
- Redmond, A. C., Waxman, R., & Helliwell, P. S. (2006). Provision of foot health services in rheumatology in the UK. *Rheumatology*, 45(5), 571–576. <https://doi.org/10.1093/rheumatology/kei205>
- Rohan, D., Ahern, S., & Walsh, K. (2009). Defining an anaesthetic curriculum for medical undergraduates. A Delphi study. *Medical Teacher*, 31(1), e1–e5. <https://doi.org/10.1080/01421590802334291>
- Royal College of General Practitioners. (2015). The RCGP Curriculum: Clinical modules. Care of people with musculoskeletal problems. Retrieved from <http://www.rcgp.org.uk/~media/Files/GP-training-and-exams/Curriculum-2012/RCGP-Curriculum-3-20-Musculoskeletal-Problems.ashx>
- Scott, D. L., Shipley, M., Dawson, A., Edwards, S., Symmons, D. P., & Woolf, A. D. (2008). The clinical management of rheumatoid arthritis and osteoarthritis: Strategies for improving clinical effectiveness. *British Journal of Rheumatology*, 37(5), 546–554.
- Stoffer, M. A., Smolen, J. S., Woolf, A., Ambrozic, A., Berghea, F., Boonen, A., ... eumusc.net WP 5 expert panel, eumusc.net WP 5 expert panel (2015). Development of patient-centred standards of care for osteoarthritis in Europe: the eumusc.net-project. *Annals of the Rheumatic Diseases*, 74(6), 1145–1149. <https://doi.org/10.1136/annrheumdis-2004-206176>
- Woolf, A. D., & Akesson, K. (2008). Primer: History and examination in the assessment of musculoskeletal problems. *Nature Clinical Practice Rheumatology*, 4(1), 26–33. <https://doi.org/10.1038/ncprheum0673>
- Woolf, A. D., Walsh, N. E., & Akesson, K. (2004). Global core recommendations for a musculoskeletal undergraduate curriculum. *Annals of the Rheumatic Diseases*, 63(5), 517–524. <https://doi.org/10.1136/ard.2003.016071>

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