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Enhancing Multidisciplinary Approaches to Arthritis Care Training Healthcare Teams in West Africa: A Narrative Review of Competencies, Care Pathways and Implementation Priorities

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ABSTRACT

Arthritis includes degenerative, inflammatory, crystal-related and infectious joint diseases that cause pain, disability, income loss and reduced social participation. In West Africa, rheumatology and rehabilitation services are concentrated in cities, leaving primary-care clinicians to manage cases with limited training, diagnostics and referral support. Multidisciplinary team training can improve care by coordinating early recognition, diagnosis, inflammatory arthritis treatment, medicine monitoring, pain management, rehabilitation, joint protection, surgery referral, self-management and social support. Teams may involve clinicians, nurses, pharmacists, therapists, surgeons, counsellors, social workers, diagnostic staff, community health workers and patients, without requiring every profession at every facility. Evidence from Ghana and Nigeria suggests that short courses, task-sharing, telemedicine and multidisciplinary meetings are feasible. Scalable training should combine core and role-specific competencies, case-based learning, supervised practice, mentorship, referral networks and audit, while matching resources. Evaluation should measure clinical outcomes, safety, function, equity, patient experience and cost, supported by national frameworks and regional accreditation.

Keywords: arthritis; rheumatology; multidisciplinary care; interprofessional education; West Africa; rehabilitation; task-sharing; workforce training

INTRODUCTION

Arthritis is not one disease. Osteoarthritis is characterised by joint pain and structural change; rheumatoid arthritis and spondyloarthritis are immune-mediated diseases in which delayed disease-modifying treatment can lead to irreversible damage; gout reflects crystal deposition and cardiometabolic risk; and septic arthritis is an emergency [1]. Systemic lupus erythematosus and other connective-tissue diseases may involve joints while threatening kidneys, blood, lungs or the nervous system. Safe care therefore depends on differential diagnosis, not a generic label of “rheumatism.” [2] Musculoskeletal conditions are among the largest contributors to disability globally, yet rheumatology and rehabilitation capacity remain scarce in many African health systems [3]. A 2026 perspective from a rural Nigerian teaching hospital described one rheumatologist serving an expanding service and reported osteoarthritis, lupus and rheumatoid arthritis among its most common diagnoses. Diagnostic tests, advanced imaging, biologic therapy and specialised nurses or therapists were limited [4]. Similar constraints, with national variation, are found across West Africa. Multidisciplinary care is proposed because arthritis affects inflammation, mobility, pain, work, mental health, cardiovascular risk, medication safety and family life. The objective is coordinated expertise around patient goals. Training is the mechanism that converts a nominal group of professionals into a functioning team.

Why Multidisciplinary Care Matters

Multidisciplinary care is essential because rheumatic and musculoskeletal conditions involve complex clinical, functional and social needs that no single profession can address alone. Early inflammatory arthritis demands prompt recognition, specialist review, disease-modifying treatment, disease-activity monitoring and timely adjustment [5]. Osteoarthritis requires education, exercise, weight management, pain support, assistive approaches and, when appropriate, surgery, while gout needs acute therapy, urate-lowering treatment and risk-

factor control. Beyond controlling disease, patients need help maintaining strength, mobility, daily activities, employment and independence. Physiotherapists support fitness and movement; occupational therapists provide joint protection, pacing, splints and environmental adaptations; nurses and pharmacists improve medicine safety and adherence; and mental-health, social and patient organisations address depression, stigma, transport, work barriers and understandable education [6]. In settings with few specialists, coordinated care is even more important because fragmented referrals waste time and resources. Trained primary-care teams can identify red flags, start safe initial care, arrange feasible tests and refer appropriately, while stable patients are monitored locally through shared protocols. Effective task-sharing must include clear roles, training, supervision and escalation pathways, ensuring that wider access does not become unsupported transfer of responsibility [7].

Table 1: Team Roles and Shared Competencies

Team member	Core contribution	Training priority	Escalation trigger
Primary-care clinician	Recognition, first-line assessment, comorbidity care and referral	MSK examination, pattern recognition, red flags, basic tests	Hot joint, systemic illness, persistent synovitis, organ involvement
Rheumatologist/internist	Diagnosis, DMARD strategy, procedures and complex care	Teaching, supervision, treat-to-target and consultation	Severe, refractory, toxic or diagnostically uncertain disease
Nurse	Triage, disease activity, education, adherence and monitoring	Structured assessment, counselling, toxicity and vaccination	Abnormal monitoring, flare, pregnancy, infection
Pharmacist	Reconciliation, access, interaction and safety monitoring	DMARD/NSAID safety, adherence, supply and pharmacovigilance	Toxicity, contraindication, interaction or non-access
Physio/occupational therapy	Exercise, function, joint protection and adaptation	Condition-specific rehabilitation, pacing, aids and outcomes	Rapid decline, neurologic signs, falls or surgical need
Community health worker	Awareness, navigation, follow-up and social support	Simple screening, myths, referral, adherence and home context	Red flags, treatment interruption or safeguarding concern

Every team member also needs shared competencies: person-centred goal setting, pain communication, health literacy, safeguarding, infection prevention, pregnancy and reproductive considerations, disability inclusion, referral documentation and measurement of function. Orthopaedics, radiology, laboratory services, nutrition, psychology and social work may participate through referral rather than permanent clinic presence.

Training Gaps in West Africa

West Africa faces significant rheumatology training gaps in education, workforce capacity, clinical resources, and professional collaboration. Undergraduate and postgraduate programmes often give insufficient attention to musculoskeletal examination and practical reasoning, leaving learners unable to confidently identify synovitis, mechanical pain, septic joints, and other common high-risk conditions [8]. Specialist rotations, particularly in paediatric rheumatology, are also limited. Workforce shortages affect not only rheumatologists but also rehabilitation professionals, nurses, pharmacists, and community health workers, requiring comprehensive workforce planning. Training is further restricted by limited access to diagnostic tests, imaging, joint aspiration, medicine monitoring, conventional DMARDs, and affordable biologics [9]. Curricula must therefore teach safe, evidence-based adaptation, uncertainty management, referral, and advocacy without normalising poor standards of care. Professional learning remains fragmented because disciplines train separately despite needing to collaborate. Interprofessional education should use realistic cases, clarify shared roles, improve handovers and escalation, challenge harmful hierarchies, incorporate patient priorities, and strengthen overall team performance across healthcare settings [10].

Evidence and Existing Models

Existing models show that arthritis capacity building in West Africa is feasible but limited in scale and evidence. In Ghana, a four-day, collaboratively designed course for 20 medical professionals combined local and international teaching, leadership, and training-of-trainer components, producing a reported 15.83% increase in knowledge. However, it focused mainly on physicians and measured only immediate learning [11]. In Nigeria, the Irrua model uses multidisciplinary meetings, resident rotations, patient education, outreach, teleconsultation, and supervised nurse delegation for monitoring, medication, and adherence support. Although not experimentally evaluated, it offers a practical hub model for constrained settings. Regional and international partnerships, including AFLAR, national societies, and EULAR, have expanded educational resources, but sustainability

depends on local faculty, accreditation, protected teaching time, and financing [12]. WHO rehabilitation frameworks further support integrating arthritis care into national health plans, benefit packages, multidisciplinary workforce development, equipment provision, and data systems rather than treating training as an isolated specialist initiative.

Designing the Care Pathway around Training

Training has limited effect if the service has no pathway. Each district should define where patients enter, which red flags trigger same-day action, how persistent synovitis reaches a specialist, who starts and monitors DMARDs, where rehabilitation occurs and how stable patients return to local follow-up. Shared referral forms and a minimum record reduce duplication. Regular virtual or in-person case conferences support learning and accountability [13]. A hub-and-spoke model is practical: tertiary hubs provide rheumatology, complex diagnosis, procedures, faculty development and remote advice; secondary hospitals provide trained medical, nursing, pharmacy and rehabilitation teams; primary care identifies, initiates safe symptomatic care and follows agreed plans; community workers support navigation and adherence. Referral should remain bidirectional so tertiary clinics do not retain every stable patient [14].

Evaluation

Learning: Knowledge, observed examination, case reasoning, procedure skill, teamwork and confidence.

Practice: Appropriate referral, DMARD initiation and monitoring, rehabilitation prescription, safety screening and documentation.

Patient outcomes: Diagnostic delay, disease activity, pain, function, work participation, adverse events and quality of life.

Service outcomes: Wait time, referral completion, continuity, medicine availability, teleconsultation use and retention in care.

Equity: Access and outcomes by country, district, rurality, sex, age, disability, language and ability to pay.

Sustainability and cost: Faculty retention, repeat training, protected time, cost per competent trainee and cost per improved patient outcome.

Evaluation should follow the chain from training to care and distinguish exposure from competence. Pre/post tests alone overestimate impact. Follow-up at six and twelve months, chart audit, observed practice and patient-reported outcomes are more informative. Where training is introduced in phases, stepped-wedge or controlled implementation designs can estimate effect while maintaining fairness.

Implementation Barriers and Safeguards

High staff turnover, migration, workload, unreliable connectivity, professional hierarchy and unfunded supervision can erode gains. Training may increase referrals beyond specialist capacity or identify needs for unavailable medicines. Safeguards include realistic scope, protected mentorship time, referral quotas based on urgency, essential-medicine planning, offline resources, supervision logs and explicit patient-safety thresholds [15]. External partners should fund the full implementation cycle, including evaluation and faculty time, rather than course delivery alone.

Recommendations

West African countries should strengthen arthritis care by adopting multidisciplinary competency frameworks aligned with professional roles and WHO rehabilitation guidance. Regional universities, teaching hospitals, and professional societies should lead hub-and-spoke training networks using a shared core curriculum, role-specific certification, and supervised workplace assessment [16]. Training should emphasise early recognition of inflammatory arthritis, urgent management of hot joints, medicine safety, rehabilitation, and functional outcomes. Funding must also support essential diagnostics, conventional DMARDs, monitoring tests, rehabilitation equipment, and referral transport. Advanced-practice pathways for nurses, pharmacists, and rehabilitation professionals should be legally recognised, appropriately remunerated, and supported by specialist supervision. Low-bandwidth teleconsultation and case conferences can expand access, provided accountability and data protection are clear [17]. Patients and caregivers should help design curricula, teaching resources, and service evaluations. Programmes should measure sustained changes in practice and patient outcomes, while building trainer capacity, faculty retention, accreditation, career progression, and protected teaching time to ensure long-term sustainability across diverse health systems and underserved rural communities over time [18].

Evidence Gaps

West Africa lacks reliable country-level data on rheumatology, nursing, pharmacy and rehabilitation workforce density and distribution. Training studies are small and rarely assess behaviour, patient outcomes, cost or durability. Evidence is concentrated in Nigeria and Ghana, with limited published experience from francophone and lusophone West Africa [19]. There is little research on paediatric rheumatology, occupational therapy, community health workers, patient educators or culturally adapted outcome measures. Future studies should compare delivery models, report implementation context and examine whether task-sharing improves access without compromising safety.

CONCLUSION

Multidisciplinary arthritis care is not a luxury reserved for well-resourced systems; it is a practical response to the clinical and functional complexity of joint disease and the scarcity of specialists in West Africa. The most feasible model distributes essential functions across trained professionals and care levels while preserving specialist support for high-risk decisions. Training should be competency based, interprofessional, clinically supervised and linked to referral, medicines, diagnostics and rehabilitation. Ghanaian and Nigerian experience shows that locally co-designed education, task-sharing and teleconsultation are feasible, but stronger evaluation is needed. Sustainable progress will depend on West African leadership, accredited faculty networks, protected rehabilitation capacity and measurement of what matters to patients: earlier diagnosis, safer treatment, less pain and disability, and fuller participation in family, work and community life.

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