AMERICAN COLLEGE OF RHEUMATOLOGY
POSITION STATEMENT

SUBJECT: Use of Artificial Intelligence in Rheumatology

PRESENTED BY: Committee on Rheumatologic Care

FOR DISTRIBUION TO: Members of the American College of Rheumatology
Medical Societies
Members of Congress
Centers for Medicare and Medicaid Services
U.S. Food and Drug Administration
Managed Care Organizations/Third-Party Carriers
Insurance Companies and Commissioners
Medical Review Organizations, e.g. AMCRA
Electronic Health Record Vendors
Other Interested Parties

POSITIONS:

1. Artificial Intelligence (AI) is a powerful tool but does not replace the role of the clinical judgment of the rheumatologist or rheumatology professional.

2. The interpretation of data provided by AI needs to be made in the context of each individual patient's history, clinical presentation, social factors, and preferences.

3. The ACR opposes the use of AI to limit access to care.

4. The ACR supports transparency around the derivation of algorithms that drive AI. AI programs that affect patient care must be developed in ways that eliminate or minimize bias in decision support and must be regulated.

5. The ACR supports strict guidelines on AI program development with attention paid to the maintenance of patient confidentiality and privacy.

BACKGROUND:

Artificial Intelligence (AI) is a powerful computational tool that is being used for progressively more applications in medical fields. AI algorithms can scan vast amounts of data from patient records, imaging studies, and laboratory values to assist in diagnostic and therapeutic decision-making. This has the potential to lead to more rapid diagnosis and personalized treatment plans, hopefully resulting in improved patient outcomes. AI is already being successfully used in multiple other disciplines [1, 2].

Moving forward, AI tools will undoubtedly influence every aspect of rheumatologic care. The ACR supports transparency around the derivation of algorithms regarding reliability, variability, and the freedom from bias that impacts patient care. In everyday practice, rheumatologists and rheumatology professionals utilize data from a variety of sources (text, discrete labs, and imaging) to assist in diagnosis and management. AI has immense potential to facilitate care and may become an integral part of the evaluation and management of those with rheumatic disease. The ACR supports efforts to create rheumatology-specific tools to assist patients and providers at each step of rheumatologic care and assess the impact on the rheumatology workforce [3].

We are moving toward an environment of data derived from a variety of sources, including patient self-reports, phone apps, and wearable devices. This data can be configured into meaningful and concise formats by AI and potentially improve patient care and outcomes. Algorithms looking at lab interpretation and image classification (synovial ultrasound, temporal artery ultrasound, and erosions) are already available [3]. Such programs could also include the ability to help clinicians with tasks of generative content (such as letters of medical necessity), progress note writing, and fielding patient phone calls. AI programs could also dramatically improve research by assisting in the screening of records for research studies, by aiding in study design and interpretation.

As we continue to intermingle information management with disease management, AI will be capturing data that occurs outside of the normal patient-provider encounter. Reimbursement for data review may be better covered under a value-based model as opposed to a fee-for-service model. The ACR supports efforts to assess how the interpretation of AI-generated data from patients impacts reimbursement.

AI does have limitations that raise concerns for the rheumatology community. First, the algorithms used can incorporate bias from a variety of sources, which can impact patient care negatively. As an immediate example, the usage of language processing programs such as ChatGPT generates the potential for inaccurate statements, which underscores the need for close scrutiny of the final product. Second, healthcare data used in AI models must be protected and kept in the most confidential and secure manner. Third, AI programs that are introduced into the care model should be thoroughly tested, regulated, monitored, and verified for clinical use. Fourth, AI systems will be developed by multiple vendors. As such, these programs should be reliable, valid, interoperable, and sustainable [4, 5, 6]. The ACR supports certification with respect to accuracy, operability, and meeting intended purpose and benefit (clinical validation). AI programs should be reliable, testable, usable, beneficial for providers and patients, transparent, safe, and fair.

The ACR rejects attempts to limit access to care through the use of computer algorithms. There has been increasing concern with the use of AI to reportedly deny or limit care without direct oversight of each individual claim [7]. This underscores the need for direct oversight of algorithms, regulatory monitoring of their use, and transparency in making healthcare decisions. The ACR agrees with directives set by the American Medical Association (AMA) advocating for greater regulatory oversight of the use of AI in evaluating patient claims and prior authorization requests [8].

It is important to note that AI should not replace the expertise and clinical judgment of the rheumatologist or rheumatology professional. The role of the rheumatologist is to interpret and integrate the information provided by AI algorithms into the clinical context of each individual patient, considering their unique medical history, symptoms, and preferences. Moreover, AI should be used as a tool to support, not replace, the human interaction and communication between the physician and patient. Ultimately all decisions made are the responsibility of the care provider and not that of an AI algorithm.

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