Disparities in Rheumatoid Arthritis Care and Health Service Solutions to Equity

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KEYWORDS

- Rheumatoid arthritis • Inequities • Access to care • Quality improvement
- Models of care

KEY POINTS

- Rheumatoid arthritis care access varies by rural and remote residence, race and ethnicity, and socioeconomic status, contributing to undesirable disease outcomes.
- Populations characterized by age, sex, race and ethnicity, sex, socioeconomic status, and location of residence experience substantial difficulties in accessing evidence-based rheumatoid arthritis treatment.
- Adherence to quality care indicators and patient experience in rheumatology care are important areas for research and action for resolving care gaps for populations at risk for inequities in rheumatoid arthritis outcomes.
- Promising health service interventions and therapeutic decision-making supports are potential solutions to better support optimal rheumatoid arthritis outcomes.

INTRODUCTION

Paradigm shifts in the recognition and treatment of rheumatoid arthritis (RA) have occurred over the past 2 decades, improving the frequency with which major treatment goals of remission and prevention of damage and disability are achieved.[1] Prioritization of assessment of suspected inflammatory arthritis within weeks of onset, coupled with frequent reassessment and aggressive adjustment of therapy to achieve objective determination of remission (treat-to-target) are widely accepted as standard of care and appear in major treatment guidelines[2,3] and as performance measures.[4] Implementation of models of care to support these tenets and thereby attain these standards in practice necessitates restructuring of systems and clinics. However, redesign and reconfiguration of systems of practice are largely oriented to meet needs

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of the population majority, introducing the possibility that intervention-generated inequalities and equity harms[5] for those populations who were already at risk for inequities in outcomes result and thus with unintended consequences of widening care gaps.

Conceptualization of which populations may be negatively affected by interventions is facilitated by using the PROGRESS Plus framework. PROGRESS Plus is an acronym identifying population groups at risk for inequities, which includes Place of residence; Race/ethnicity/culture/language; Occupation; Gender/sex; Religion; Education; Socioeconomic Status; and Social capital; and with Plus referring to personal characteristics associated with discrimination, features of relationships, and time-dependent relationships including transitions in care.[6,7] Athough summarizing outcome variations for each of these populations, as well as considering aspects of intersectionality (whereby patients experience exponential gaps by their membership in several populations experiencing disparities and inequities) is beyond the scope of this article, examples of described disparities in health services delivery, medication access, and quality of care considerations specific to RA care paradigms in the United States and Canada will be provided. Further, proposed models of care and treatment approaches that can better support optimal RA outcomes will be summarized.

DISPARITIES IN ACCESS TO HEALTH SERVICES

Geography introduces risk for inequities in health outcomes based on differences in physical environments and health care availability compared with urban populations, and this affects the ability to minimize time to diagnosis and provide frequent reassessment of disease activity. As an example of diagnostic delay introduced by geographic distance to rheumatology providers, in a Canadian study, remote distance (defined as residence >100 km to rheumatologist) was associated with a nearly 50% lower odds of being seen by a rheumatologist within 3 months of suspected diagnosis, even after adjustment for patient demographics, clinical factors, primary care physician characteristics, provider continuity, and geographic characteristics.[8] Remote distance from providers was also associated with an approximately 70% reduction in continuity in care in the first year of disease onset.[8] In a study of US-based Medicare patients older than 65 years of age, persons with the longest driving distances to rheumatology providers had an approximately 30% decreased odds of receiving an RA diagnosis compared with those located nearest to rheumatology care.[9]

Socioeconomic status is also a determinant of health service access for RA care. Although limited by study design requiring self-report of RA status, a study of patients aged 18 to 64 years found that uninsured and Medicaid patients in the United States were 17% and 13% less likely to visit a rheumatologist, respectively.[10]

Decreased health service access for diagnosis and continuing care may result in accumulation of RA damage, leading to surgical needs. In an American Medicare cohort, rural residents with RA had 30% higher odds of undergoing hand or wrist arthroplasty or arthrodesis and 90% higher odds of having tendon reconstructive procedures.[11] This is in contrast to another population at risk for RA outcome inequities, Indigenous populations, who continue to experience colonized health systems, racism, and stereotyping, resulting in decreased surgical access for conditions including secondary osteoarthritis.[12]

DISPARITIES IN ACCESS TO MEDICATIONS

Several populations, including those determined by socioeconomic status, race or ethnicity, age, gender, and geographic location of residence, have been identified to have variations in medication access. Older studies have reported on access to disease-modifying antirheumatic drugs (DMARDs). In a cohort comparison study of patients with access to a rheumatology clinic in a public county hospital providing care primarily to minority, disadvantaged or uninsured patients with RA, relative to those receiving rheumatology care at a private clinic, yet with both sites affiliated with the same medical school, a difference of 4.5 years for DMARD initiation between private and public clinic attendees, and 6 years based on White and non-White ethnicity, was estimated.[13] Health care Effectiveness Data and Information Set data from the National Committee for Quality Assurance confirmed decreased DMARD receipt for several populations at risk for inequities, including for those older than 65 years, men, Black ethnicity, those residing in particular geographic areas of the United States, along with low personal income, residing in socioeconomically disadvantaged neighborhoods, and enrollment in for-profit plans.[14] In an American cohort, albeit with self-reported RA, Medicaid patients aged 18 to 64 years had significantly increased odds of receiving NSAIDs, however with only a 26% odds of receiving nonbiological DMARDs.[10]

The issue of biological therapy availability to population groups with low socioeconomic status is an even more acute concern given the cost of these therapies to payers. Using Truven's MarketScan Commercial Claims and Encounters and Medicare Supplemental and Coordination of Benefits data, increasing age; residence in the American Midwest, Northeast, and West regions; and having Medical supplemental insurance were associated with reduced odds of tumor necrosis factor (TNF)-alpha inhibitor treatment initiation in patients on nonbiological monotherapy, whereas age alone was a negative predictor of initiation if on combination nonbiologic therapy.[15] In the aforementioned American cohort with self-reported RA, Medicaid patients aged 18 to 64 years had just 9% the odds of receiving biological therapy compared with patients with private insurance.[10] In the first 10 years of biological therapy availability in Canada, only 10% of patients exposed to DMARD therapy with cost coverage through the Non-Insured Health Benefits branch of Health Canada, representing those who have retained First Nations Status through the Indian Act, went on to receive a biological therapy,[16] whereas at that point in time approximately 24% of the general population with RA in Ontario were being treated with these strategies.[17]

Receiving biological therapy is not only influenced by socioeconomic status; in a study comparing the prevalence of biological therapy use between patients in a single-payer health system (Veterans Affairs Rheumatoid Arthritis Registry) and those with a mix of self-paid insurance, Medicare, and Medicaid, biological therapy use was highest in White patients with insurance coverage, even compared with White patients in the single-payer health system, and for patients who were of non-White ethnicity, for similar levels of RA disease activity.[18] In contrast, rural residence may afford increased access, with a nearly 2-fold increased probability of initiation of biological therapy once individual and contextual factors were considered in an American population.[19]

Therapeutic persistence was not found to vary by rural residence in a Canadian cohort, either for DMARD therapy or biological therapy.[20] However, rural location of care has been found to inform the selection of route of administration of medication. In a Canadian study, receiving rheumatology care in a rural area was associated with a nearly 4-fold increase in initiating a TNF-alpha inhibitor biologic over a non-TNF-alpha strategy, with also nearly uniquely being started on subcutaneous rather than intravenous therapy, with adjustment for gender, age, smoking, disease duration, function, concurrent use of antiinflammatories, academic affiliated site, time period, and number of comorbidities.[21] The impact of these trends on disease activity and outcomes is not known but raises concerns for prescribing bias favoring convenience for rural patients.

PATIENT EXPERIENCE AND PERFORMANCE IN QUALITY-OF-CARE INDICATORS

Relatively little information on the experience of rheumatology care for persons from populations at risk for inequities in RA care is available. A study from Saskatchewan, Canada used qualitative research methodology to explore rural patients' experiences of RA care. Although access to care was the greatest concern raised, patients with longer travel times had higher satisfaction with their health care appointments, suggesting that strong patient-provider relationships are important for a good-quality care experience.[22]

One approach in examining care accessibility is through evaluation of Ambulatory Care Sensitive Conditions (ACSC), which is applied as a metric reflecting that appropriate access to quality healthcare services will prevent costly hospitalizations for exacerbations of chronic diseases.[23] ACSCs are not defined in rheumatology, and as hospitalization for RA is no longer a frequent outcome, contact with the urgent or emergent health care system may be used as an indicator of poor specialty access and appropriate care. This is supported by research that documented that after attempts at self-management, patients with RA will seek primary care assessment or attend the emergency department if their rheumatologist is unable to accommodate them in a timely fashion.[24] Inequity concerns are suggested to also be reflected in emergency department use. In the state of Nebraska from 2007 to 2012, emergency department visits for arthritis and other related conditions provided information that female gender and older age were associated with higher visit rates.[25]

Exploration of established indicators of quality of care, such as adherence to system-level performance measures in populations at risk for inequities in outcomes, and patient satisfaction with rheumatology care experiences, should be embedded within further research and quality improvement studies. Room should also be made to define indicators more relevant to the populations served. An example of this comes from an activity the Public Health Agency of Canada undertook, called the "Canadian Best Practices Initiative,", to compile promising health promotion and chronic disease interventions throughout the nation. It was realized that the framework by which the agency sought to identify exemplary programs did not align well with Indigenous community knowledge and approaches. This led to assembling expertise and the creation of a measurement framework that incorporated Indigenous values on interventions.[26]

MODELS OF CARE AND TREATMENT APPROACHES TO SUPPORT BETTER RHEUMATOID ARTHRITIS OUTCOMES FOR POPULATIONS AT RISK OF INEQUITIES

Quality improvement approaches that engage those required to make sustainable meaningful changes have been described as successful in populations facing RA outcome inequities. In California, a pay-for-performance initiative instigated an interprofessional approach in a clinic serving urban racially/ethnically and socioeconomically diverse patients with RA.[27] Foci for redesigned clinical processes included vaccination completion, disease activity monitoring, latent tuberculosis infection screening before biological use and reproductive health counseling. Enhancing workflow, engaging nonphysician providers, and managing practice variation were instrumental in achieving targets. In Australia, Mitchell and colleagues[28] described a modified continuous quality improvement approach to improve culturally and socially inclusive care within rural health services, requiring deep engagement of health system staff to reflect on dominant discourses, understanding the need for and engaging in change, including community members and shifting organizational culture to support delivery of culturally inclusive health care.

Models of care that facilitate access and continuity of care are critical to develop and implement. Described models include distributed models of care, including provision of rheumatology care in locales more convenient and accessible to patients,[29] and using technology such as telehealth to connect with persons in remote locations.[30] System capacity may be enhanced by using allied health professionals, including Advanced Clinician Practitioner in Arthritis Care (ACPAC)-trained practitioners[31] and supporting nurse-led care,[32] which have been offered as solutions to meet increased patient volumes due to increasing the number of initial assessments for early diagnosis and frequent reassessments. Lessons may also be learned from other areas of medicine. Innovative cross-sector studies providing social service need screening, patient navigation, and housing supports are under evaluation for feasibility and ability to improve health outcomes.[33]

The care provision in clinics must also ensure culturally safe environments, either through enhanced knowledge and skills in communication strategies with defined patient groups,[34] using trauma-informed care strategies,[35] or increasing the number of rheumatologists from the populations at risk for inequity,[36] as this is likely to increase relationship building and understanding.

Treatment decision support is another important consideration. Health literacy and power differentials affect medication adherence. The preferred approach to steer away from paternalistic medicine is shared decision-making, which encompasses tools and approaches to increase patient engagement in decision-making, through identification of benefits, negatives, and patient preferences for clinical decisions and has been shown to result in better health outcomes.[37] In a study that enrolled patients with RA exposed to therapy, a low-literacy medication guide and decision aid was beneficial to improve knowledge and reduce decisional conflict for those of older age, who were immigrants, who were non-English speakers, had less than high school education, had limited health literacy, and were from a racial minority group.[38]

SUMMARY

This article introduces the literature base on disparities in RA care for populations at risk of inequities and suggestions for mechanisms by which the rheumatology community could support these populations. These activities call on our need to drive advocacy, redistribute privilege, and launch collaborative initiatives within systems and clinics to close care gaps, and consider which activities we prioritize for ensuring all patients can secure optimal RA outcomes.

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