

## Dr. Waljee and Chung reply

To the Editor:

We appreciate the opportunity to respond to the thoughtful comments of Drs. Momohara, Yano, Sakuma, and Ikari<sup>1</sup> regarding our article examining variation in the rates of surgery for hand and wrist deformities caused by rheumatoid arthritis (RA)<sup>2</sup>. In this study, we examined the determinants of surgical reconstruction among older individuals with RA across the United States using population-based claims data. Overall, rates of surgical reconstruction are low, which is likely attributable to recent advances in the medical management of RA and the introduction of disease-modifying antirheumatic drugs (DMARD). Although rates of surgery did vary by patient factors, a substantial proportion of the variation in rates of surgery was attributable to the regional density of providers, underscoring the influence of clinician practice characteristics and referral patterns on rates of surgery.

Nonetheless, rates have not declined consistently. For example, a recent analysis from the Healthcare Utilization Project data reveals that arthroplasty rates among patients with RA have declined only slightly in comparison to more dramatic declines among patients with other inflammatory conditions<sup>3</sup>. In our analysis, rates of surgery varied widely across geographic regions, and were particularly dependent on the regional density of providers, specifically surgeons and rheumatologists. Although we cannot account for the severity of disease based on administrative claims data, we observed that patients who resided in areas with more rheumatologists were less likely to undergo surgery. It is possible that patients who reside in areas with more rheumatologists may in turn have greater access to optimal medical therapy. It is also possible that regional density relates to referral patterns, and previous research has demonstrated that rheumatologists and surgeons often disagree on the timing, indications, and effectiveness of surgery for RA<sup>4</sup>.

The early initiation of DMARD for patients with RA shortly after diagnosis is considered an essential element of high-quality care among rheumatologists. Moreover, current guidelines advocate a "treat-to-target approach" in which disease activity is regularly assessed, and medical therapy is aggressively titrated to a predefined target disease activity state, either remission or low disease activity<sup>5</sup>. For some conditions, such as peptic ulcer disease, medical therapy has nearly supplanted the need for surgical intervention<sup>6</sup>. As Momohara, *et al* note, however, antiinflammatory regimens for RA cannot completely eradicate disease activity<sup>1</sup>, and not all patients can tolerate potent immunosuppression. Among the elderly, inflammatory and degenerative arthropathies may overlap, and medical therapy may not alleviate joint destruction entirely. DMARD regimens, particularly biologic DMARD, are expensive, and may be out of reach for many patients despite subsidy plans such as the US Medicare Part D prescription drug coverage<sup>7</sup>. A direct cost-benefit analysis of medical and surgical treatment of RA-related joint deformity remains elusive, but a recent study examining longterm outcomes after silicone metacarpophalangeal arthroplasty demonstrates sustained benefit at a fraction of the cost of immunosuppression regimens<sup>8,9</sup>.

The decision for surgery reflects a complex array of factors arising from patient-provider interactions as well as patient preferences, expectations, and desires regarding pain, joint position, joint appearance, and function, and

surgical reconstruction remains an important tool among the treatment resources for patients with RA.

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