Adherence Differences Between Self-Administered and Provider-Administered Biologics Among Patients with Rheumatoid Arthritis During the COVID-19 National Emergency

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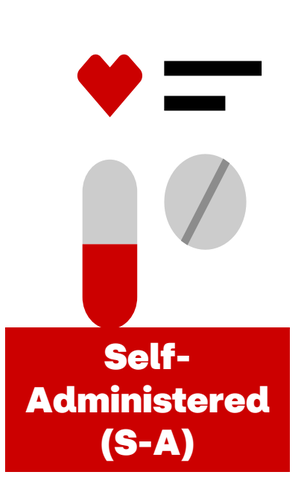
Background

Patients must adhere to the prescribed therapeutic regimen to achieve the best clinical outcomes. COVID-19 presented numerous barriers to Rheumatoid Arthritis(RA) patients taking biologics, particularly those receiving provider-administered (P-A) biologics in a healthcare setting. Previous work has suggested a decrease in P-A biologic adherence after the onset of COVID-19, yet the effects of COVID on RA therapy adherence to P-A and self-administered (S-A) biologics is unknown.

RA Biologics Administration Options



✓	Abatacept	✓
✓	Adalimumab	✗
✓	Anakinra	✓
✓	Canakinumab	✓
✓	Certolizumab pegol	✓
✓	Etanercept	✗
✓	Golimumab	✓
✗	Infliximab	✓
✗	Rituximab	✓
✓	Sarilumab	✗
✓	Tocilizumab	✓

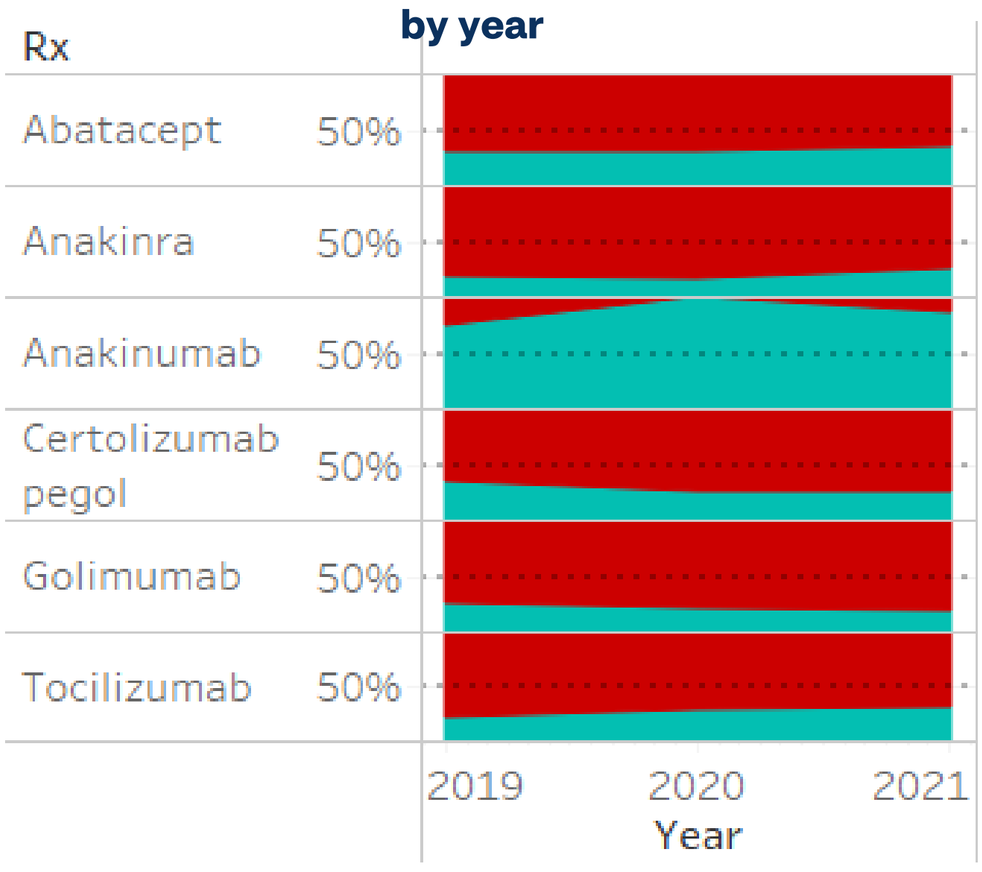
Objectives

To assess changes in adherence during the COVID-19 emergency among RA patients taking P-A and S-A biologics.

Methods

We conducted a retrospective, repeated, cross -sectional analysis of administrative claims for adults with an RA diagnosis and using a biologic. Infusion/ injection procedures administered by a health care professional and retail pharmacy dispensing were considered P-A and S-A, respectively. We compared fixed-window medication possession patio (MPR) and persistence among independent cohorts for 2019, 2020, and 2021 using a mixed model adjusting for demographics, biologic, and comorbidities. The analysis window was March 1 until discontinuation or December 31 of the cohort year. Persistence was calculated as days between March 1 and last dispense, plus last days' supply. MPR was calculated as days' supply dispensed divided by days in the analysis window.

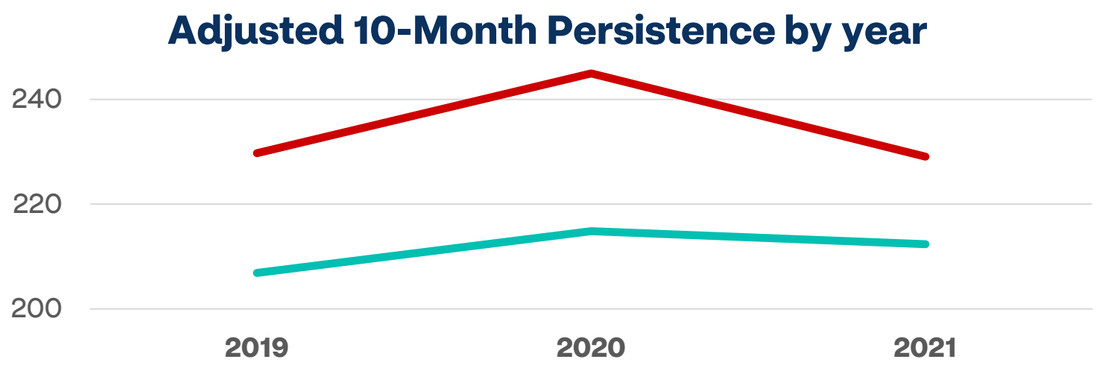
% Self-Administered v. Provider-Administered by year



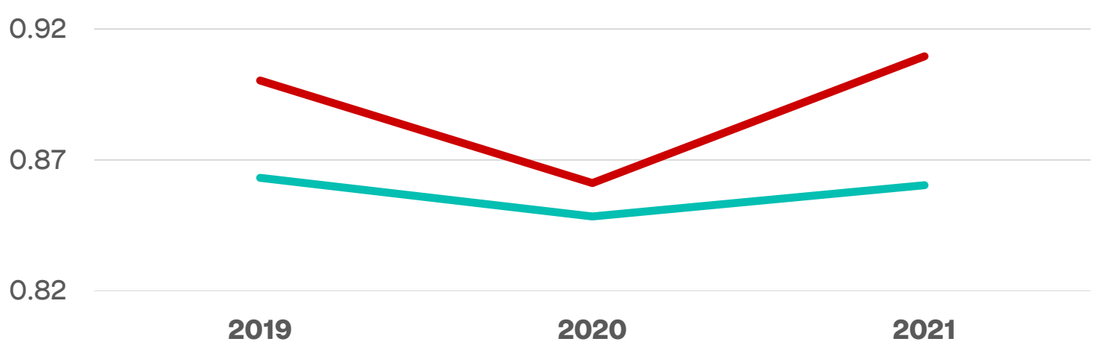
Results

The annual cohorts represented 11,361 patients total and were comparable in biologics, S-A ratio, sex, ethnicity, history of specific comorbidities, and combined comorbidity score.

Adjusted 10-Month Persistence by year



Adjusted 10-Month MPR by year



In 2019, S-A MPR was 0.90 (95%CL 0.86 - 0.94) and P-A MPR was 0.86 (95%CL 0.83 - 0.90); S-A persistence was 229.7 (95% CL 198.4 - 261.1) and P-A persistence was 206.9 (95%CL 181.0 - 232.7).

In 2020, **S-A MPR dropped to 0.86 (95%CL 0.82 - 0.90)** and **P-A MPR to 0.85 (95%CL 0.81 - 0.88**); **S-A persistence increased to 245.0 (95%CL 213.6 – 276.3**) and **P-A persistence to 214.8 (95%CL 189.0 - 240.7**). Changes in MPR and persistence differed significantly between S-A and P-A. By 2021, both MPR and persistence returned to levels comparable to 2019.

Conclusions

Decreasing MPR alongside increasing persistence suggests that both S-A and P-A patients experienced increased days without therapy during the first year of COVID-19, however differences between administration modalities need to be investigated further.

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