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## Background

- Opioid use is common among rheumatoid arthritis (RA) patients.
- However, there is limited evidence regarding the effectiveness of long-term use of opioids in RA; growing evidence suggests an increased risk of adverse events associated with opioid use in this population.
- While the initiation of biological (b) or targeted synthetic (ts) disease-modifying anti-rheumatic drugs (DMARDs) relieves pain in RA patients, real-world evidence of the impact of these advanced therapy options on the use of pain medicines, such as opioids is limited.

## Objective

- To examine changes in opioid use before and after advanced therapy initiation among RA patients enrolled in Medicare.

## Methods

- **Design:** A new-user cohort study design (Fig.1)
- **Sample:** Older ( $\geq 65$  years) Medicare beneficiaries with advanced therapy initiation (first prescription=index date) who had at least one RA diagnosis in the 2012-2020 5% national Medicare claims data. Eligible beneficiaries included those with continuous Part A, B, and D, but not Part C enrollment, during 12 months pre- and post-index period.
- **Outcomes:** Changes from pre- to post-index period in any opioid use and chronic opioid use (defined as  $\geq 90$ -day cumulative days supply).
- **Analysis:** McNemar's test was used to evaluate the change from pre- to post-index period and conditional logistic regression was used to assess effect modification of the changes by demographic and clinical factors.

## Methods

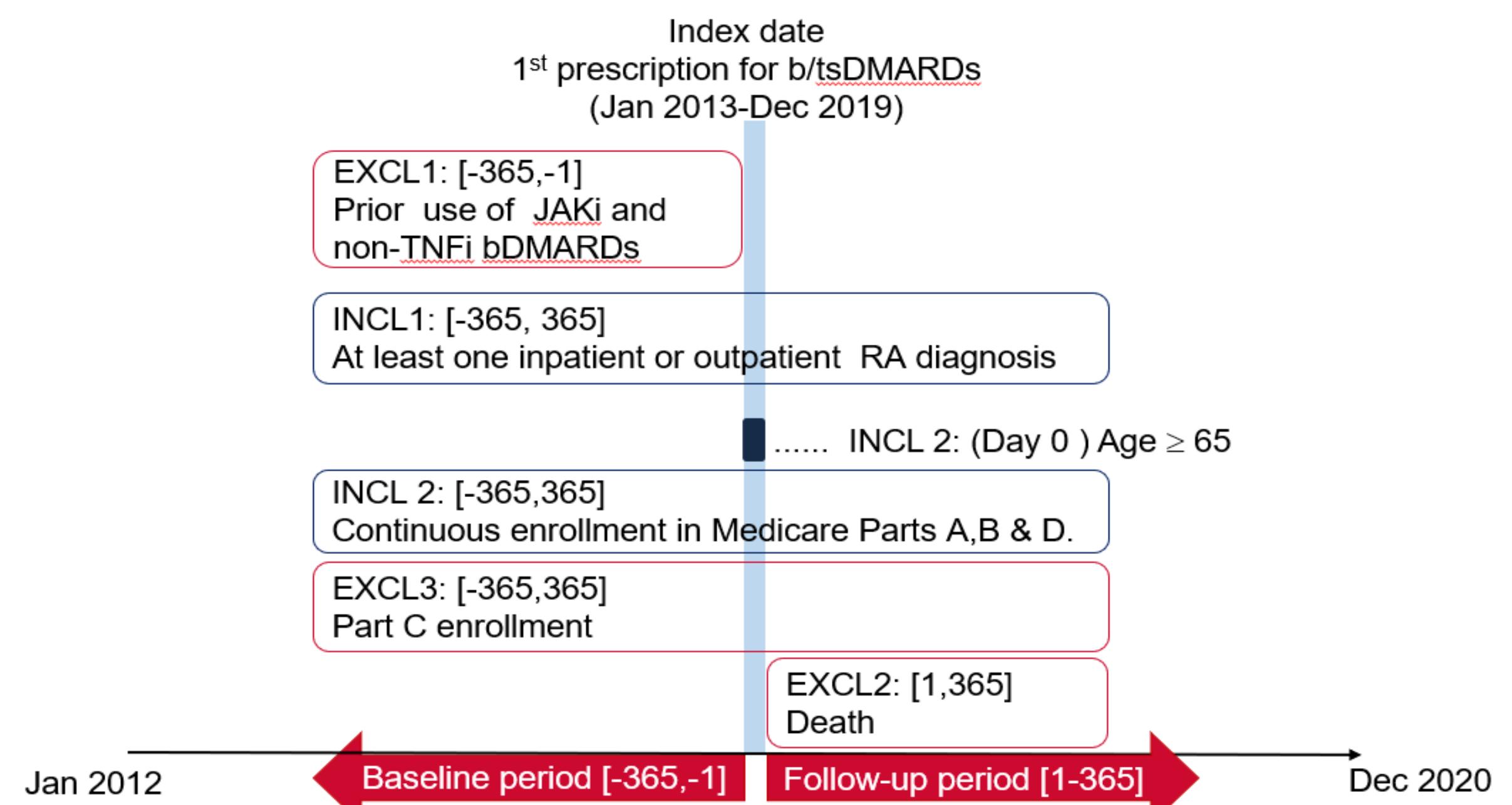


Figure 1. Study design

## Results

- A cohort of 3,810 beneficiaries was identified with a mean age (SD) of 73.16 (5.95) years, female (76.25%), White (85.38%), residing in the southern region (43.72%), and Charlson comorbidity index scores higher than 3 (55.98%).
- Compared to the pre-index period, any opioid use decreased in the post-index period (unadjusted OR=0.87; 95% CI=0.77-0.98). This effect was modified by psoriasis, number of pain conditions, back pain, and use of NSAIDs, COX-2 inhibitors, or oral glucocorticoids.
- Compared to the pre-index period, chronic opioid use increased in the post-index period (unadjusted OR=1.40; 95% CI=1.15-1.71). This effect was modified by ankylosing spondylitis and use of NSAIDs.

Opioid use measures, N(%)	12 months before btsdmard initiation	12 months after btsdmard initiation	p-value
Any opioid users	2,226 (58.42%)	2,151 (56.46%)	0.0217
Chronic opioid users	980 (25.72%)	1,048 (27.51%)	0.0007

Table 1. Prescribing patterns of opioids in 12 months before and after initiation of advanced therapy (n=3,810)

## Conclusion

- Among Medicare beneficiaries with RA, any opioid use significantly reduced after treatment initiation with advanced therapy options, while chronic opioid use increased significantly.
- One possible explanation for increased chronic opioid use after advanced therapy among RA patients would be the decision to prioritize advanced therapy initiation over starting chronic opioid use when dealing with uncontrolled pain in this population.
- Given the findings suggesting the chronic opioid use remained consistently high in the 12 months after b/tsDMARDs initiation versus prior, future studies are needed to evaluate the clinical outcomes, especially the potential risk of adverse events associated with chronic opioid use in the population with RA.
- The utilization patterns warrant further studies,
- Future studies could compare the effectiveness of each advanced therapy option in affecting the tapering or discontinuation of opioids among RA patients.

## Contact information

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## Key references

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