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STUDY PURPOSE

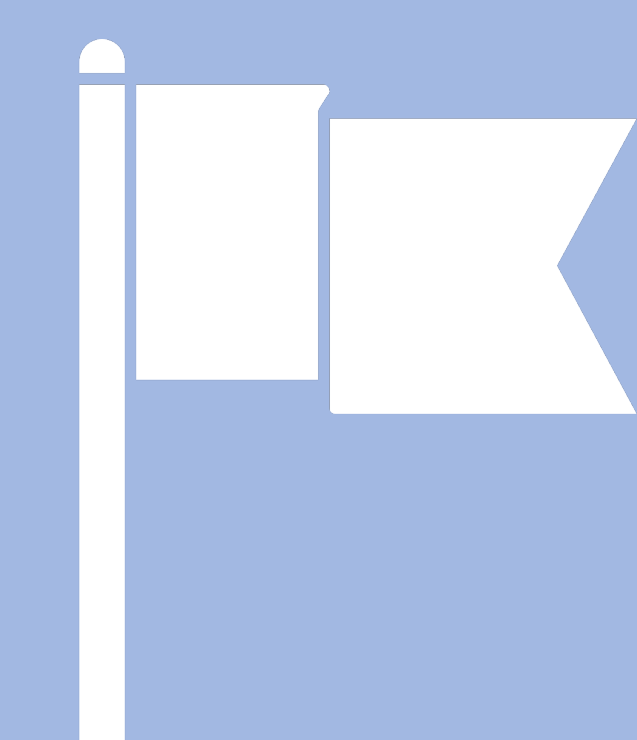
MRI is overused in patients with wrist pain and substantially contributes to healthcare spending. Although the American College of Radiology (ACR) published guidelines on appropriate MRI use for wrist pain in May 2018, its impact on MRI use is unclear.

METHODS

We used Truven MarketScan Database (2015-2020) to identify inappropriate MRI use in patients with wrist pain. We studied predictors of inappropriate MRI, predicted probability after ACR guideline publication (May 2018), total payment, and out-of-pocket expenses associated with inappropriate MRI use.



867,119 patients with wrist pain



Flag inappropriate MRI according to ACR guidelines



Segmented multivariable regression on interrupted time series data



Total payment & out-of-pocket cost

RESULTS



More than half of patients (52.6%) who had MRI received an inappropriate study with a substantial proportion (67.9%) **not receiving a preceding wrist x-ray.**

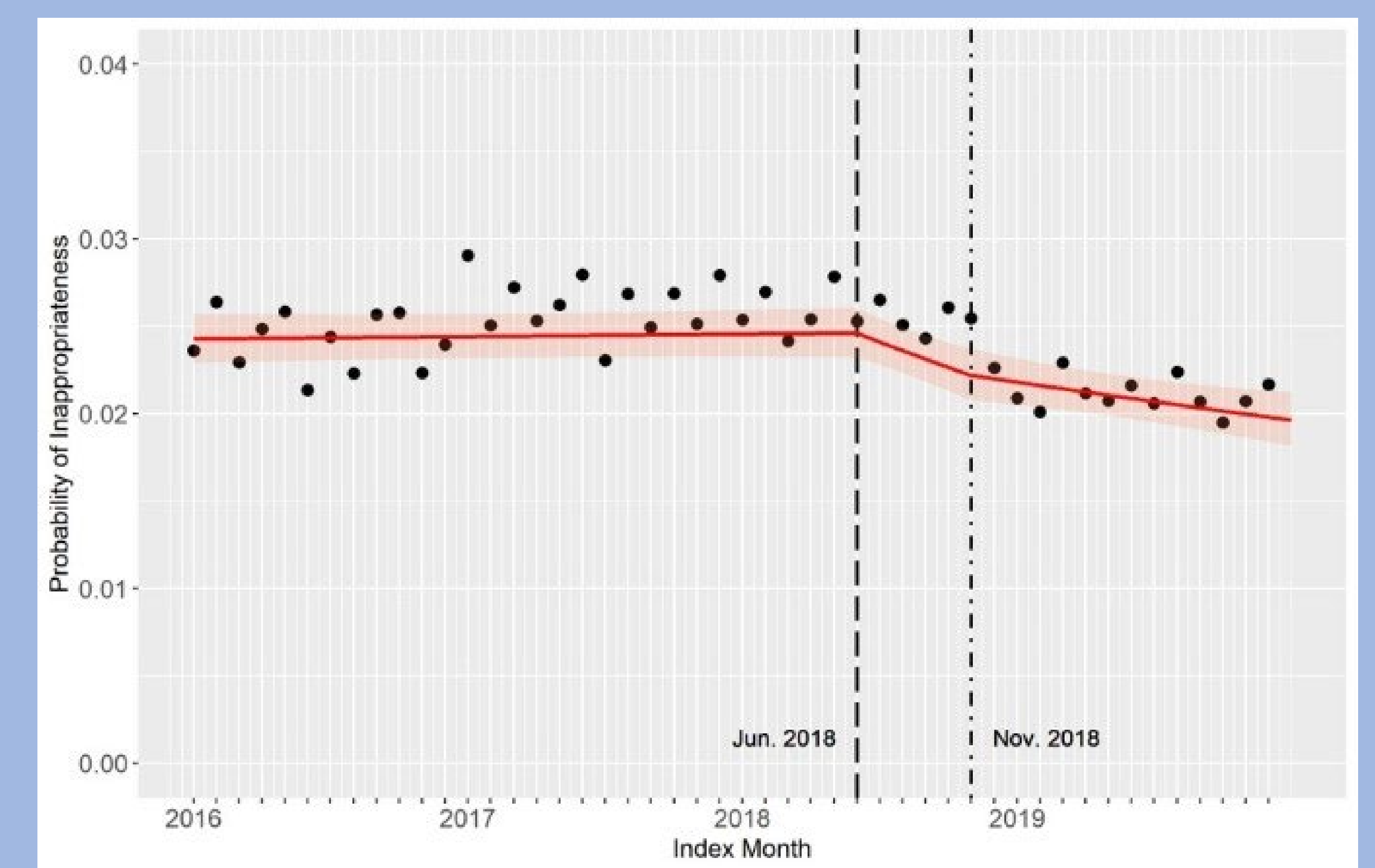


Patients with **higher number of comorbidities, fee-for-service insurance, and osteoarthritis-related wrist pain** had higher odds of inappropriate imaging.



In the study cohort, inappropriate MRIs resulted in **\$44,493,234** and **\$8,307,540** in **total payments** and **out-of-pocket spending**, respectively.

In the post-guideline period, we observed a **0.9% monthly decrease in the probability** of receiving an inappropriate MRI (p=0.007)



CONCLUSIONS

MRI to diagnose wrist pain is overused, often inappropriate, and expensive. Our findings support interventions to increase guideline visibility and adherence such as clinical decision support tools or enhanced provider education.