Background Autoimmune diseases (ADs) affect more than 24 million people in the United States. As patients with ADs are excluded from clinical trials of immune checkpoint inhibitors (ICI), management of AD after ICI initiation is not well understood. Our study explored healthcare resource utilization (HCRU) before and after initiation of an ICI in cancer patients with pre-existing ADs.

Methods This retrospective, observational study included adult patients who were treated with ICIs and had ≥1 inpatient or ≥2 outpatient claims for melanoma (Mel), renal cell carcinoma, lung cancer (LC), head and neck cancer, hepatocellular carcinoma, or bladder cancer, between January 1, 2015 and March 31, 2020 in the MarketScan Commercial, Medicare Supplemental and Medicaid claims databases. Patients also had administrative claims for ADs (rheumatoid arthritis (RA), psoriasis/psoriatic arthritis (P/PA), multiple sclerosis (MS), Crohn’s disease (CD)/ulcerative colitis (UC)/inflammatory bowel disease (IBD) and Others) within 12 months prior to the index date (first ICI treatment date). HCRU included outpatient visits, hospitalizations, and ER visits. Total HCRU and AD-related HCRU were calculated per patient per month (PPPM) for all patients. Generalized linear models (GLM) were used to calculate differences in HCRU pre- and post- ICI initiation over the entire follow-up period. Analyses were also conducted using the first 6 months of the pre- and post-index period.

Results Of the 525 eligible patients, mean age was 61 years, 58.9% were female; over half (50.7%) had a Charlson Comorbidity Index of 2+, 29.1% had Mel, and 55.6% had LC. The most common AD types were IBD/CD/UC (24.9%) and RA (19.0%). Mean total visits over the total follow-up period were 3.5 and 5.8 PPPM in the pre- and post-periods, respectively. Mean AD-related visits over the total follow-up period were 0.4 and 0.5 PPPM in the pre- and post-periods, respectively. Breakdown of outpatient visits, hospitalizations, and ER visits in the pre-and post-periods are described in (table 1). GLM showed that total HCRU increased in the post-period over total follow-up, but AD-related HCRU were not significantly different between pre-and post-periods, over the entire follow-up period.

Conclusions This real-world analysis is one of the largest claims-based analysis describing a patient population treated with ICI therapy with pre-existing ADs. Using HCRU as a proxy for management of the AD post ICI initiation, this study showed that care related to AD was similar in the prior and post periods.