

**Submission Id:** 4896

**Title**

*Longitudinal Utilization among Patients with New-Onset Neck Pain by Initial Provider Specialty*

**Priority 1 (Research Category)**

Healthcare Services, Delivery, and Financing

**Presenters**

Joshua Fenton, MD, MPH, Patrick Romano, Shao-You Fang, PhD, Monika Ray, Anthony Lisi, Katrine Padilla, Russell Amundson, MD

**Abstract**

Context: Initial provider specialty has been associated with distinct care patterns among patients with acute back pain. Objective: To compare utilization patterns for patients with new-onset neck pain by initial provider specialty. Study Design: Retrospective cohort study. Setting or Dataset: Deidentified administrative claims and electronic health record (EHR) data derived from the Optum Labs Data Warehouse, which contains longitudinal health information on over 200M enrollees and patients, representing a mixture of ages and geographical regions across the U.S. Population studied: Patients had outpatient visits for new-onset neck pain from October 1, 2016 to September 30, 2019, classified by initial provider specialty. Outcome measures: Utilization was assessed during a 180-day follow-up period, including subsequent neck pain visits, diagnostic imaging, and therapeutic interventions. For imaging and invasive interventions at 180 days, we performed multivariate logistic regression to adjust for baseline patient characteristics, including complicating diagnoses (e.g., radiculopathy, comorbid back pain). Results: The cohort included 770,326 patients with new-onset neck pain visits. The most common initial provider specialties were chiropractor (45.2%) and primary care physician (33.4%). Rates and types of diagnostic imaging and therapeutic interventions during follow-up also varied widely by initial provider specialty. While uncommon after initial visits with chiropractors ( $\leq 2\%$ ), CT or MRI scans occurred in over 30% of patients with initial visits with emergency physicians, orthopedists, or neurologists, and 11% of initial visit with primary care physicians. Similarly, 6.8% and 3.4% of patients initially seen by orthopedists received therapeutic injection and major surgery, respectively, as compared to 0.4% and 0.1% of patients initially seen by a chiropractor, and 1.8% and 0.9% of patients initially seen by primary care physicians. Bivariate associations were robust to multivariate adjustment. Conclusions: Within a large, national cohort, chiropractors and primary care physicians were initial providers for most patients with new-onset neck pain. Compared to patients initially seen by physician providers, patients initially seen by chiropractors received fewer and less costly imaging services and were less likely to receive invasive therapeutic interventions during follow-up.