Initial Choice of Spinal Manipulation Reduces Escalation of Care for Chronic Low Back Pain among Older Medicare Beneficiaries

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Background & Objective

Current evidence-based guidelines for clinical management of chronic low back pain (cLBP) include both pharmacological and non-pharmacological approaches. Of these, Opioid Analgesic Therapy (OAT) and Spinal Manipulative Therapy (SMT) are often provided under Medicare as a treatment for older adults with cLBP. However, for long-term care of cLBP, the value and efficiency of continuing either OAT or SMT are uncertain. The objective of this study was to compare long-term outcomes for SMT and OAT regarding escalation of care for patients with cLBP. We analyzed outcomes for older Medicare beneficiaries with cLBP, choosing SMT offers superior care for cLBP with OAT, the adjusted rate of escalated care encounters was more than two and one-half times higher as compared to patients who initiated long-term care with OAT.

Methods

We conducted a retrospective study using nationally representative samples of Fee-for-service claims data spanning a five-year study period (2012-2016). The study population included non-institutionalized Medicare beneficiaries aged 65-84 years and residing in a state or the District of Columbia. All patients were continuously enrolled throughout the study period under Medicare Parts A (inpatient), B (outpatient), and D (pharmacy). We restricted the sample to subjects with an episode of care beginning in 2013. Included patients received long-term management of cLBP with SMT or OAT. We assembled the included patients into cohorts. [Figure 1] We collected data on the demographics and health characteristics of included patients.

Conclusions

We estimated the causal difference between initial choice of the two approaches to treatment. We accounted for selection bias by propensity score binning and weighting. To estimate the adjusted incidence rate ratio using a multivariable model (ratio of average count) we conducted a comparison of outcomes between cohorts OATC and SMTC using Poisson regression with robust (sandwich) standard errors, controlling for age, sex, race, beneficiary characteristics

Results

The overall study sample included 28,160 subjects. There were 4,908 subjects (18%) in Cohort SMT, 20,947 (74%) in Cohort OAT, 1,431 (5%) in crossover cohort SMTX, and 784 (3%) in crossover cohort OATX. Among the combined cohorts, there were 6,429 subjects in cohort SMTC and 21,731 subjects in cohort OATC.

Outcomes Measurement and Statistical Analysis

From accrual in 2013 through 2016, we analyzed the cumulative frequency of encounters indicative of an escalation of care for cLBP. We measured for secondary care encounters for cLBP, choosing SMT offers superior care for cLBP with OAT, the adjusted rate of escalated care encounters was more than two and one-half times higher as compared to patients who initiated long-term care with SMT.

Policy Implications

Our findings provide additional evidence that for older Medicare beneficiaries with cLBP, choosing SMT offers superior efficiency for older US adults with cLBP.

Conclusions

Among older Medicare beneficiaries who initiated long-term care for cLBP with OAT, the adjusted rate of escalated care encounters was more than two and one-half times higher as compared to patients who initiated long-term care with SMT.
Background & Objective

Current evidence-based guidelines for clinical management of chronic low back pain (cLBP) include both pharmacological and non-pharmacological approaches. Both Opioid Analgesic Therapy (OAT) and Spinal Manipulative Therapy (SMT) are often provided under Medicare as a treatment for older adults with cLBP. However, for long-term care of cLBP, the value and efficiency of continuing either OAT or SMT are uncertain. The objective of this study was to compare long-term outcomes for SMT and OAT regarding escalation of care for patients with cLBP. We analyzed in particular for the impact of initial choice of treatment. Previous studies have found that initial choice of treatment for low back pain can significantly affect outcomes. We hypothesized that among older Medicare beneficiaries with cLBP, recipients of OAT – and those who choose initial treatment with OAT - have higher rates of escalated care for low back pain, as compared with recipients of SMT.
Methods

We conducted a retrospective study using nationally representative samples of Fee-for-service claims data spanning a five-year study period (2012-2016). The study population included non-institutionalized Medicare beneficiaries aged 65-84 years and residing in a US state or the District of Columbia. All patients were continuously enrolled throughout the study period under Medicare Parts A (inpatient), B (outpatient), and D (pharmacy). We restricted the sample to subjects with an episode of cLBP beginning in 2013. All included patients received long term management of cLBP with SMT or QAT. We assembled the included patients into cohorts. [Figure 1] We collected data on the demographic characteristics and health status of included subjects.

![Figure 1. Study Timeline](image-url)