

Access to Chiropractic Services: A Synopsis of Research Related to Reduced Costs and Opioid Utilization

Reducing Healthcare Costs via Increased Use of Chiropractic Care

Overall long-term healthcare expenditures under Medicare were 1.87 times higher for patients who initiated care via Opioid Analgesic Therapy (OAT) compared with those who initiated care with Spinal Manipulative Therapy (SMT).

Whedon et al. Long-Term Medicare Costs Associated with Opioid Analgesic Therapy vs Spinal Manipulative Therapy for Chronic Low Back Pain in a Cohort of Older Adults. *J Manipulative Physiol Ther* 2021 Sep;44(7):519-526. doi: 10.1016/j.jmpt.2021.09.001. Epub 2021 Dec 5. PMID: 34876298 PMCID: PMC8923950 (available on 2022-12-05).

Among those who experienced a reduction in access to chiropractic care (versus those who did not), researchers observed an increase in the rate of visits to primary care physicians for spine conditions and rate of spine surgeries. Considering the mean cost of a visit to a primary care physician and spine surgery, a reduction in access to chiropractic care was associated with an additional cost of \$114,967 per 1,000 beneficiaries on medical services (\$391 million nationally). Among older adults, reduced access to chiropractic care is associated with an increase in the use of some medical services for spine conditions.

Davis et al. The Effect of Reduced Access to Chiropractic Care on Medical Service Use for Spine Conditions Among Older Adults. *J Manipulative Physiol Ther*. 2021 Jun;44(5):353-362. doi: 10.1016/j.jmpt.2021.05.002. Epub 2021 Aug 8. PMID: 34376317 PMCID: PMC8523031 (available on 2022-08-08).

When considering the true costs of care in a typical healthcare system, it is particularly important to consider static versus dynamic modeling. In short, static modeling only considers a line item on a budget. Dynamic modeling considers the offsetting downstream costs associated with the implementation of, for example, conservative care providers. According to a 2019 study focused on Missouri Medicaid, investigators found that “(1) chiropractic care provides better outcomes at lower cost, (2) chiropractic treatment and care leads to a reduction in cost of spinal surgery, and (3) chiropractic care leads to cost savings from reduced use and abuse of opioid prescription drugs.”

McGowan, Suiter. Cost-Efficiency and Effectiveness of Including Doctors of Chiropractic to Offer Treatment Under Medicaid: A Critical Appraisal of Missouri Inclusion of Chiropractic Under Missouri Medicaid. *J Chiropr Humanity*. 2019 Dec 10;26:31-52. doi: 10.1016/j.echu.2019.08.004. eCollection 2019 Dec. PMID: 31871437 PMCID: PMC6911936.

Spinal, hip, and shoulder pain patients had similar pain relief, greater satisfaction, and lower cost if they started care with chiropractors, compared with medical doctors.

Houweling et al. First-contact care with a medical vs chiropractic provider after consultation with a Swiss telemedicine provider: comparison of outcomes, patient satisfaction, and health care costs in spinal, hip, and shoulder pain patients. *J Manipulative Physiol Ther*. 2015 Sep;38(7):477-83.

Overall, cost comparison studies from private health plans and workers' compensation plans reported that healthcare costs were lower with chiropractic care.

Dagenais et al. A systematic review comparing the costs of chiropractic care to other interventions for spine pain in the United States. *BMC Health Serv Res.* 2015 Oct 19;15:474.

Attempts to reduce national healthcare spending by eliminating coverage for Complementary and Alternative Medicine (CAM) has been shown to “have little impact at best.” The inclusion of CAM providers in new delivery systems (e.g., ACOs) is predicted to help slow growth in national healthcare spending.

Davis et al. US spending on complementary and alternative medicine during 2002-08 plateaued, suggesting role in reformed health system. *Health Aff (Millwood)* 2013;32:45-52.

Healthcare expenditures for Complementary and Alternative Medicine (CAM) users with spine problems—focusing primarily on those who visited a doctors of chiropractic—is \$526 less per person for spine care, and \$298 less for total healthcare costs, conservatively.

Martin et al. The association of complementary and alternative medicine use and health care expenditures for back and neck problems. *Med Care* 2012;50:1029-36.

Reducing Opioid Consumption

The client-validated reduction of cost and utilization data was compared before and after program participation by enrolled members with chronic pain conditions. Our analysis demonstrated a per member per year (PMPY) reduction in total average medical costs of 23%, an 86% reduction in the average number of opioid scripts, a 50% decrease in the average number of ER visits, a 36% decrease in the average number of inpatient (IP) admissions, and a 57% drop in the number of average total prescriptions.

AMI Group Program Executive Summary written by Health Management Associates (HMA) as a third-party verification of program data. *Integrated Chronic Pain Program, Executive Summary.*

The adjusted risk of filling an opioid prescription within 365 days of initial visit was 56% lower among recipients of chiropractic care as compared to nonrecipients. Conclusions: Among older Medicare beneficiaries with spinal pain, use of chiropractic care is associated with significantly lower risk of filling an opioid prescription.

Whedon et al. Association between chiropractic care and use of prescription opioids among older Medicare beneficiaries with spinal pain: a retrospective observational study. *Chiropr Man Therap.* 2022 Jan 31;30(1):5. doi: 10.1186/s12998-022-00415-7. PMID: 35101064 PMCID: PMC8802278.

Among older adults who initiated long-term care of chronic low back pain with opioids, the rate of adverse drug events was substantially higher than those who initially chose spinal manipulation. Adverse drug events were more than 42 times higher with an initial choice of Opioid Analgesic Therapy (OAT) versus an initial choice of Spinal Manipulative Therapy (SMT).

Whedon et al. Initial Choice of Spinal Manipulative Therapy for Treatment of Chronic Low Back Pain Leads to Reduced Long-term Risk of Adverse Drug Events Among Older Medicare Beneficiaries. *Spine (Phila Pa 1976).* 2021 Dec 15;46(24):1714-1720. PMID: 33882542 PMCID: PMC8629350 (available on 2022-12-15) DOI: 10.1097/BRS.0000000000004078.

People with neck pain who initially saw acupuncturists or chiropractors had the lowest odds of filling an opioid prescription within 30 days and 1 year of initiating treatment compared with those whose first contact was physical therapists and medical doctors.

Louis et al. Association of Initial Provider Type on Opioid Fills for Individuals with Neck Pain. *Arch Phys Med Rehabil.* 2020 Aug;101(8):1407-1413.

People with neck pain initiating care with primary care providers vs. chiropractic physicians had higher odds of using advanced imaging, injections, and opioid medications.

Horn et al. Influence of Initial Provider on Health Care Utilization in Patients Seeking Care for Neck Pain. *Mayo Clin Proc Innov Qual Outcomes.* 2017 Oct 19;1(3):226-233. doi: 10.1016/j.mayocpiqo.2017.09.001. eCollection 2017 Dec. PMID: 30225421 PMCID: PMC6132197

Early Use of Doctors of Chiropractic to Reduce Risk Escalation, Opioid Use and Costs

The adjusted relative risk for each escalation procedure was higher in individuals who received other care compared with those who received spinal manipulation. Specifically for escalation to injections, the adjusted relative risk was 6.52 times higher in individuals who received other care compared with those who received spinal manipulation (see Table 4).

Anderson et al. Risk of Treatment Escalation in Recipients vs Nonrecipients of Spinal Manipulation for Musculoskeletal Cervical Spine Disorders: An Analysis of Insurance Claims. *J Manipulative Physiol Ther.* 2021 Jun;44(5):372-377. doi: 10.1016/j.jmpt.2021.03.001. Epub 2021 Aug 6. PMID: 34366149.

Among older adults, access to chiropractic care may reduce medical spending on services for spine conditions. Trends indicate worrisome increases in the use of opioid analgesic medications, overreliance on medical specialists, and unwarranted diagnostic imaging. All these practices lead to higher healthcare costs.

Davis et al. Access to chiropractic care and the cost of spine conditions among older adults. *Am J Manag Care.* 2019 Aug 1;25(8):e230-e236. PMID: 31419099 PMCID: PMC6699757.

By encouraging people with low back pain to access physical therapy or chiropractic care, the benefit is expected to reduce the number of imaging tests, spinal surgeries, and opioid prescriptions.

New UnitedHealthcare Benefit for Low Back Pain Helps Reduce Invasive Procedures and Address the Opioid Epidemic. Published October 29, 2019.

Early engagement of conservative therapists (e.g., chiropractors) may decrease initial opioid prescriptions in association with MD visits by providing the opportunity to incorporate evidence-based nonpharmacological interventions.

Kazis et al. Observational retrospective study of the association of initial healthcare provider for new-onset low back pain with early and long-term opioid use. *BMJ Open.* 2019 Sep 20;9(9):e028633.

The adjusted likelihood of filling a prescription for an opioid analgesic was 55% lower among recipients who were treated by chiropractors. Among New Hampshire adults with office visits for noncancer low-back pain, the

likelihood of filling a prescription for an opioid analgesic was significantly lower for recipients of services delivered by doctor of chiropractic compared with nonrecipients.

Whedon et al. Association Between Utilization of Chiropractic Services for Treatment of Low-Back Pain and Use of Prescription Opioids *J Altern Complement Med*. 2018 Jun;24(6):552-556. doi: 10.1089/acm.2017.0131. Epub 2018 Feb 22. PMID: 29470104 DOI: 10.1089/acm.2017.0131.

Seeing a chiropractor first for new back or lower-body pain was associated with lower odds of receiving an opiate prescription.

Azad T, Vail D, Bentley J et al. Initial Provider Specialty is Associated with Long-term Opiate Use in Patients with Newly Diagnosed Low Back and Lower Extremity Pain. *Spine (Phila Pa 1976)*. 2018 Aug 7.

The type of healthcare provider first visited for back pain is a determinant of the duration of financial compensation during the first five months. Chiropractic patients experience the shortest duration of compensation, and physiotherapy patients experience the longest.

“These differences raise concerns regarding the use of physiotherapists as gatekeepers for the worker's compensation system.”

Blanchette et al. Association Between the Type of First Healthcare Provider and the Duration of Financial Compensation for Occupational Back Pain. *J Occup Rehabil*. 2017 Sep;27(3):382-392. doi: 10.1007/s10926-016-9667-9. PMID: 27638518 DOI: 10.1007/s10926-016-9667-9.

Older multiple-comorbid patients who used only chiropractic manipulative therapy (CMT) during their chronic low back pain (cLBP) episodes had lower overall costs of care, shorter episodes, and lower cost of care per episode day compared with patients in the other treatment groups.

“The investigators concluded that support exists for the initial use of CMT in the treatment of, and possibly broader chiropractic management of, older multiple-comorbid cLBP patients.”

Weeks et al. The Association Between Use of Chiropractic Care and Costs of Care Among Older Medicare Patients with Chronic Low Back Pain and Multiple Comorbidities. *WJ Manipulative Physiol Ther* 2016. Feb;39(2):63-75.e2. doi: 10.1016/j.jmpt.2016.01.006. Epub 2016 Feb 19. PMID: 26907615 PMCID: PMC4834378.

Entry setting for LBP was associated with future healthcare utilization and costs. Consideration of where patients chose to enter care may be a strategy to improve outcomes and reduce costs.

Fritz J et al. Importance of the type of provider seen to begin health care for a new episode low back pain: associations with future utilization and costs. *Journal of Evaluation in Clinical Practice*. First published: 29 September 2015 <https://doi.org/10.1111/jep.12464>.

Initial treatment pattern by the chiropractic group had the lowest prescription medication rates, least costs per episode of LBP, and least guideline-incongruent use of medications and imaging.

Allen et al. Tracking low back problems in a major self-insured workforce: toward improvement in the patient's journey. *J Occup Environ Med*. 2014 Jun;56(6):604-20.

About 43% of workers who first saw a surgeon had surgery within 3 years, compared with only 1.5% of workers who first saw a chiropractor.

Keeney et al. Early predictors of lumbar spine surgery after occupational back injury: results from a prospective study of workers in Washington State. *Spine (Phila Pa 1976)*. 2013;38(11):953-64.

The choice of initial healthcare provider matters when it comes to spine-related disorders. Favorable health and economic outcomes can be achieved by incorporating evidence-informed decision criteria and guidance about entry into conservative low back care such as the care provided by chiropractors.

Kosloff et al. Conservative spine care: opportunities to improve the quality and value of care. *Popul Health Manag*. 2013 Dec;16(6):390-6.

Paid costs for episodes of care initiated with a chiropractor were almost 40% less than episodes initiated with an MD.

Liliedahl et al. Cost of care for common back pain conditions initiated with chiropractic doctor vs medical doctor/doctor of osteopathy as first physician: experience of one Tennessee-based general health insurer. *J Manipulative Physiol Ther*. 2010 Nov-Dec;33(9):640-3.

Chiropractic may represent the most substantially overlooked and underutilized U.S. health workforce resource. Chiropractic providers render a substantial amount of care to underserved and rural populations. Health policy planners should consider the full complement of providers available to improve access to care.

Smith et al. Chiropractic health care in health professional shortage areas in the United States. *Am J Public Health* 2002;92:2001-2009.

Outcomes

Compared with family physician-directed usual care, full clinical practice guideline (CPG)-based treatment including chiropractic spinal manipulative therapy (CSMT) is associated with significantly greater improvement in condition-specific functioning.

Bishop et al. The Chiropractic Hospital-based Interventions Research Outcomes (CHIRO) study: a randomized controlled trial on the effectiveness of clinical practice guidelines in the medical and chiropractic management of patients with acute mechanical low back pain. *Spine J*. 2010 Dec;10(12):1055-64. doi: 10.1016/j.spinee.2010.08.019. PMID: 20889389.

Data from participating clinicians show that 89% of the Wellmark members treated in the pilot reported a greater than 30% improvement in 30 days. In addition, Wellmark claims data for members who received care from chiropractors or physical therapists was compared with data for a member population with similar demographics (including health) who did not receive such services. The comparison showed that those who received chiropractic or physical therapy care were less likely to have surgery and experienced lower total healthcare costs

2009 Wellmark Study. Wellmark Announces Results of Physical Medicine Pilot on Quality.

Workers whose first healthcare visit for the injury was to a doctor of chiropractic had substantially better outcomes.

Turner et al. ISSLS prize winner: early predictors of chronic work disability: a prospective, population-based study of workers with back injuries. *Spine (Phila Pa 1976)*. 2008 Dec 1;33(25):2809-18.

Clinical and cost utilization based on 70,274 member-months over a 7-year period demonstrated decreases of:

- 60.2% in-hospital admissions
- 59% hospital days
- 62% outpatient surgeries and procedures, and
- 85% pharmaceutical costs when compared with conventional medicine IPA performance for the same health maintenance organization product in the same geography and time frame.

In the 7 years studied, and with a larger population than originally reported, the CAM-oriented PCPs using a nonsurgical/nonpharmaceutical approach demonstrated reductions in both clinical and cost utilization when compared with PCPs using conventional medicine alone. Decreased utilization was uniformly achieved by all CAM-oriented PCPs, regardless of their licensure.

Sarnat et al. Clinical utilization and cost outcomes from an integrative medicine independent physician association: an additional 3-year update. *J Manipulative Physiol Ther*. 2007 May;30(4):263-9. doi: 10.1016/j.jmpt.2007.03.004. PMID: 17509435.

Analysis of clinical and cost outcomes on 21,743 member months over a 4-year period demonstrated decreases of:

- 43% in hospital admissions per 1,000
- 58.4% hospital days per 1,000
- 43.2% outpatient surgeries and procedures per 1,000, and
- 51.8% pharmaceutical cost reductions when compared with normative conventional medicine IPA performance for the same HMO product in the same geography over the same time frame.

PCPs utilizing an integrative medical approach emphasizing a variety of CAM therapies had substantially improved clinical outcomes and cost offsets compared with PCPs utilizing conventional medicine alone.

Sarnat et al. Clinical and cost outcomes of an integrative medicine IPA. *J Manipulative Physiol Ther*. 2004 Jun;27(5):336-47. doi: 10.1016/j.jmpt.2004.04.007. PMID: 15195041.