Primary Spine Care Services: Responding to Runaway Costs and Disappointing Outcomes in Spine Care

DONALD R. MURPHY, DC

ABSTRACT

Efforts are underway to reform our health care system to improve efficiency, outcomes, patient satisfaction and costs. In no field is this more critical than that of spine-related disorders, where escalating costs combined with decreasing clinical benefits for patients has reached a breaking point. Traditionally, practitioners have grouped together based on their specialty (orthopedics, otolaryngology, etc.). There has been a recent movement to restructure health care delivery into a patient-centered model that teams professionals based on their ability to serve specific patient needs. This article introduces a new service line – primary spine care services – led by a new type of professional – the primary spine practitioner (PSP). This new practitioner type requires a refined and focused skill set and ideally functions within an integrated spine care pathway. The challenges and opportunities presented by primary spine care services are discussed. This service line has already been implemented in a variety of settings.

KEYWORDS: Low back pain, neck pain, health care reform, primary spine practitioner, health policy

INTRODUCTION

It is widely held that our health care system is far too expensive in relation to the health status of our citizens.[1] Nowhere is the disparity between cost and patient benefit more stark than in the area of spine-related disorders (SRDs). Between 1997 and 2005, expenditures related to SRDs rose 65%, adjusted for inflation.[2] Spending is particularly problematic for advanced imaging and invasive procedures. For example, between 1994 and 2004, costs to Medicare rose 629% for epidural steroid injections, 423% for opioid medications, 307% for spine MRIs and 220% for lumbar fusion surgeries.[3] Perhaps the largest drivers of *per capita* cost increases are inpatient hospitalizations (increased 37%), emergency department visits (increased 84%) and prescription medications (increased 139%).[2]

During this period of rapid growth in costs for SRDs, there has been a corresponding *decrease* in health outcomes for patients. For example, the percentage of individuals with SRDs who self-reported limitations in physical functioning rose from 20.7% in 1997 to 24.7% in 2005.[4] The number of disabled workers also rose during this period.[3] As more patients are seeking care for SRDs than ever before (from 12.2 million in 1997 to 18.2 million in 2006), innovative solutions to the problem of rising costs and diminishing benefits in spine care are imperative.

Spine care in the US has been likened to a "foreign supermarket."[5] The patient with a spine problem is faced with a nearly endless array of treatments, products and services offered by a variety of professionals, with no ability to discern which service and which professional is right for them. Often the choice is based more on marketing, salesmanship or simply the cultural authority of the professional offering the service rather than on sound science and patient-centeredness.

In response to the current health care "crisis," there has been increased emphasis on bringing *value* to health care. Value has been defined by Porter and Teisberg[6] as *outcome per dollar spent*. This is expanded upon by the "Triple Aim" of health care reform – improved patient health, improved patient experience (i.e., patient satisfaction) and decreased per capita cost.

One innovation that has been introduced to the health care system is one in which groups of primary care physicians (PCPs) are brought together into "patient homes" or "Accountable Care Organizations," responsible for the comprehensive care and management of a designated patient population. However, there is a projected gap between the availability of PCPs and societal needs in the near future, especially as the Affordable Care Act becomes fully implemented.[7] As a result of this, "physician extenders," such as nurse practitioners and physician's assistants, as well as other health care professionals are being utilized as part of a team to provide comprehensive care at the primary care level.[8] Making full use of this team approach will in some cases require a "refitting" of the existing health care work force to function in innovative ways.

Bringing the management of patients with SRDs into the "patient home" model presents significant challenges. Currently, low back pain (LBP) is the second most common reason for symptomatic physician visits.[9] Increasing the number of SRD patients seeing PCPs will serve to further exacerbate the problem of under-availability of these physicians. What is more, recent studies have shown that PCPs are not well trained and do not have great interest in the differential diagnosis and management of SRDs.[10] Thus, in the

area of SRDs, a different approach to primary care is needed.

One way in which this "refitting of the existing workforce" can be applied to the care of patients with SRDs is the establishment of *primary spine care services*. This involves, in part, the institution of a new type of professional – the *primary spine practitioner* (PSP).[11-13] The PSP is a primary-level health professional specially trained to provide initial and ongoing diagnosis and management of patients with SRDs. The PSP can be seen as a form of "physician extender" who can take on a significant portion of the caseload of the PCP. Important in the efficient utilization of health care resources is for the PSP to be able to manage the majority of patients with SRDs without the need for referral. However, primary spine care services involve more than just the PSP. It involves the coordinated activity of all those involved in the care of the SRD patient.

To be maximally effective, the PSP does not function in isolation but rather helps move spine care from the present "silo" orientation to a team orientation by being a key part of a *spine care pathway*. Only two such pathways currently exist in the spine field,[14] one of which has been developed by a team that includes this author.[15] A spine care pathway involves a community of practitioners who are involved in the management of patients with SRDs, including primary care personnel (such as the family medicine and general internist physicians as well as nurse practitioners and physician's assistants), specialists, both surgical and non-surgical, emergency department personnel, physical therapists and ancillary professionals such as psychologists, occupational therapists and others.

The concept of primary spine care services responds to recent calls for the health care system to transition away from individual practitioners acting as "cowboys" to the creation of teams of professionals functioning like a "pit crew."[16] In the pit crew model, it is the coordinated action of all the players involved in the care of patients with SRDs that will ensure maximal efficiency. The PSP functions as both "Crew Chief" and "Pit Crew Coach," serving as the "primary care practitioner" for spine patients. This role requires a well-defined and unique skill set.[13]

REQUIRED SKILLS OF THE PRIMARY SPINE PRACTITIONER

A wide-ranging understanding of the biopsychosocial nature of SRDs: Most SRDs are multifactorial, involving somatic, neurophysiological and psychological factors, all occurring in the social context in which the patient lives. These factors are patient-specific; the degree to which each factor contributes to the overall SRD experience is unique to each patient.

Skills in differential diagnosis: Diagnosis in the area of SRDs is challenging because; 1) in most cases the problem is multifactorial; 2) the contributing factors can involve biological, psychological and social dimensions and; 3) for most of the contributing factors there are no definitive, objective diagnostic tests.[17] Thus, SRDs involve multidimensional clinical diagnoses and the PSP has to be comfortable with relative uncertainty. In addition, while signs and/or symptoms suggestive of serious pathology only occur in approximately 1-3% of patients with SRDs,[18,19] the PSP must be adept at recognizing these cases and taking the appropriate action.

Skills in evidence-based management approaches: This includes physical treatments such as manipulation and manual therapy, neural mobilization, the McKenzie method and various exercise strategies, as well as the application of the psychological principles of Cognitive-Behavioral Therapy and Acceptance and Commitment Therapy.

An appreciation of minimalism: It has become increasing recognized in the spine field that the less treatment that is "done to" the patient and the more the patient is trained to provide self-care strategies, the better the outcome.[20] The PSP requires skills in decision-making regarding when, what and how much direct treatment is needed in each patient and, equally important, when no treatment is necessary.

An understanding of the methods, techniques and indications of intensive rehabilitation, interventional treatments and surgical procedures: The minority of SRD patients require these approaches but the PSP, as the primary care practitioner for spine patients, must know how and when to make referral decisions in those cases in which intensive or invasive procedures are necessary.

Skills in managing disability: Much of the cost of SRDs, both in terms of human suffering and dollars and cents, results from the related disability.[21] In many cases, prolonged disability is unnecessary and the PSP must sow the seeds of return to normal activities from the very beginning. This involves effective communication as well as effective treatment.

The ability to coordinate the efforts of a variety of practitioners: In some cases, a "team effort" is required to help patients overcome SRDs. The PSP will often need to serve as the "captain of the team" in order to ensure maximum consistency and effectiveness.

The ability to manage SRD patients over the "full cycle"[6]: SRDs often take on a chronic-recurrent course.[22] This can often be frustrating and debilitating for patients. The PSP requires skills in helping patients navigate through this course, teaching them how to understand and self-manage the majority of recurrences and to determine when professional services are required.

CHALLENGES TO THE IMPLEMENTATION OF PRIMARY SPINE CARE SERVICES

Educational changes: No health care profession's education currently provides all the knowledge and skills required to adequately train practitioners to function as PSPs. However, graduates of doctor of chiropractic programs and doctor of physical therapy programs (all physical therapy programs in the US are now doctorate level) currently are the best candidates to be "refitted" to become PSPs by obtaining additional

training. A training program, led by this author, has been developed for this purpose (www.primaryspinepractitioner.com [accessed 7 May 2014]).

Incentivizing value: For a value-based care pathway to be effective, the health care system has to provide appropriate incentives. This is already underway with bundled payment, pay-for-performance and shared savings models.

Overcoming prejudice and bias: It may well be that the bulk of primary spine care services will be performed by non-allopathic providers who traditionally have not enjoyed the cultural authority of medical physicians. Specifically, doctors of chiropractic medicine and physical therapists, nurse practitioners and physician's assistants will likely play a strong role in the provision of these services. It will be important that the health care system welcome this innovation and place patient benefit above all other concerns.

IS IT POSSIBLE TO IMPLEMENT AN EFFECTIVE SPINE CARE PATHWAY THAT INCLUDES PRIMARY SPINE CARE SERVICES?

Primary spine care services as described here have been implemented in several varying environments, including hospital spine centers,[15] accountable care organizations, community health clinics as well as a community-wide program associated with a large insurer in upstate New York. By coordinating the efforts of a variety of individuals, focusing on communication and pathway development and, most important, making the patient the focus of the entire process, it is possible to satisfy the "triple aim" of improving clinical outcomes, maximizing patient satisfaction and reducing costs. Those organizations who can successfully respond to the "triple aim" are most likely to thrive in our evolving health care system.

References

1. Fineberg HV. Shattuck Lecture. A successful and sustainable health system--how to get there from here. *N Engl J Med*. 2012 Mar 15;366(11):1020-7. PubMed PMID: 22417255.
2. Martin BI, Turner JA, Mirza SK, Lee MJ, Comstock BA, Deyo RA. Trends in health care expenditures, utilization, and health status among US adults with spine problems, 1997-2006. *Spine*. 2009 Sep 1;34(19):2077-84. PubMed PMID: 19675510. Eng.
3. Deyo RA, Mirza SK, Turner JA, Martin BI. Overtreating chronic back pain: time to back off? *J Am Board Fam Med*. 2009 Jan-Feb;22(1):62-8. PubMed PMID: 19124635. Eng.
4. Martin BI, Deyo RA, Mirza SK, Turner JA, Comstock BA, Hollingworth W, et al. Expenditures and health status among adults with back and neck problems. *JAMA*. 2008 Feb 13;299(6):656-64. PubMed PMID: 18270354. Eng.
5. Haldeman S, Dagenais S. A supermarket approach to the evidence-informed management of chronic low back pain. *Spine J*. 2008 Jan-Feb;8(1):1-7. PubMed PMID: 18164448. Eng.
6. Porter ME, Teisberg EO. Redefining Health Care: Creating Value-Based Competition on Results. Boston, MA: Harvard Business School Press; 2006.
7. Phillips RL, Jr., Bazemore AW. Primary care and why it matters for U.S. health system reform. *Health Aff* (Millwood). 2010 May;29(5):806-10. PubMed PMID: 20439865. Eng.
8. Borkan J. Training the primary health care team for transformed practices. *R I Med J*. 2013;November:22-5.
9. Deyo RA, Mirza SK, Martin BI. Back pain prevalence and visit rates: estimates from U.S. national surveys, 2002. *Spine*. 2006 Nov 1;31(23):2724-7. PubMed PMID: 17077742. Eng.
10. Williams CM, Maher CG, Hancock MJ, McAuley JH, McLachlan AJ, Britt H, et al. Low back pain and best practice care: A survey of general practice physicians. *Arch Intern Med*. 2010 Feb 8;170(3):271-7. PubMed PMID: 20142573. Eng.
11. Haldeman S. Looking forward. In: Phillips RB, editor. The Journey of Scott Haldeman Spine Care Specialist and Researcher. Des Moines, IA: NCMIC; 2009.
12. Hartvigsen J, Foster NE, Croft PR. We need to rethink front line care for back pain. *BMJ*. 2011;342:d3260. PubMed PMID: 21613346. Eng.
13. Murphy DR, Justice BD, Paskowski IC, Perle SM, Schneider MJ. The Establishment of a Primary Spine Care Practitioner and its Benefits to Health Care Reform in the United States. *Chiropr Man Therap*. 2011 Jul 21;19(1):17. PubMed PMID: 21777444. Eng.
14. Fourney DR, Dettori JR, Hall H, Hartl R, McGirt MJ, Daubs MD. A systematic review of clinical pathways for lower back pain and introduction of the Saskatchewan Spine Pathway. *Spine*. 2011 Oct 1;36(21 Suppl):S164-71. PubMed PMID: 21952187. Eng.
15. Paskowski I, Schneider M, Stevans J, Ventura JM, Justice BD. A hospital-based standardized spine care pathway: report of a multidisciplinary, evidence-based process. *J Manipulative Physiol Ther*. 2011 Feb;34(2):98-106. PubMed PMID: 21334541. Eng.
16. Gawande A. Cowboys and Pit Crews. Commencement Address, Harvard Medical School. 2011.
17. Murphy DR. Clinical Reasoning in Spine Pain Volume I: Primary Management of Low Back Disorders. Pawtucket, RI: CRISP Education and Research; 2013.
18. Murphy DR, Hurwitz EL. Application of a Diagnosis-Based Clinical Decision Guide in Patients with Neck Pain. *Chiropr Man Therap*. 2011 Aug 27;19(1):19. PubMed PMID: 21871119. Eng.
19. Murphy DR, Hurwitz EL. Application of a Diagnosis-Based Clinical Decision Guide in Patients with Low Back Pain. *Chiropr Man Therap*. 2011 Oct 21;19(1):26. PubMed PMID: 22018026. Eng.
20. Haldeman S, Carroll LJ, Cassidy JD. The empowerment of people with neck pain: introduction: the Bone and Joint Decade 2000-2010 Task Force on Neck Pain and Its Associated Disorders. *Spine*. 2008 Feb 15;33(4 Suppl):S8-S13. PubMed PMID: 18204404. Eng.
21. Dagenais S, Caro J, Haldeman S. A systematic review of low back pain cost of illness studies in the United States and internationally. *Spine J*. 2008 Jan-Feb;8(1):8-20. PubMed PMID: 18164449. Eng.
22. Cassidy JD, Cote P, Carroll LJ, Kristman V. Incidence and course of low back pain episodes in the general population. *Spine*. 2005;30(24):2817-23.

Author

Donald R. Murphy, DC, is Clinical Director, Rhode Island Spine Center, and Clinical Assistant Professor, Department of Family Medicine, the Alpert Medical School of Brown University.

Disclosures

The author holds stock in Spine Care Partners.

Correspondence

Rhode Island Spine Center
600 Pawtucket Avenue
Pawtucket, RI 02860
401-728-2200
Fax 401-728-2031
rispine@aol.com