Outcomes-Based Contracting™

The Value-Based Approach for Optimal Health with Chiropractic Services

CENTER FOR HEALTH VALUE INNOVATION

INFORMATION EXCHANGE FOR VALUE-BASED DESIGN

EXECUTIVE SUMMARY

As the country experiences innovation and adoption in health reform, the opportunity arises to expand the continuum of care services in order to apply the right mix of resources for each individual. Chiropractic intervention is one area in which new analysis may define the placement in the care continuum. This will be especially important in the transformational years of patient-centered care with low numbers of primary care physicians to serve as medical home quarterbacks. Care that causes early engagement of both the patient and clinician coupled with shared accountability for the outcome is the most desirable of relationships. Chiropractic may be able to support and enhance this relationship.

There are many in America who experience reduction in disability and pain through chiropractic services. There are also many health plan products that can be purchased to fortify the resolution of low back and neck pain, contributors to one of the highest-cost conditions in the nation, musculoskeletal pain and injury. Yet there are many who argue that chiropractic is not a mainstream therapy, uses too many imaging and long-term resources, and is unclear on the application of guidelines for assessment and treatment. In 2009, Niteesh Choudhry, MD, PhD and Arnold Milstein, MD, MPH, conducted an analysis of the cost-effectiveness of chiropractic for neck and back pain. They concluded that there is reasonable data to show that chiropractic could be an effective and cost-efficient service for relief of pain and reduction in disability.

The Center for Health Value Innovation (CHVI) views this discussion as an opportunity to showcase the decision process for the potential health value of chiropractic. If the value to the purchaser or plan sponsor can be demonstrated in a scalable, replicable format, then the choice to use chiropractic or other medical intervention can be applied across a variety of instances. If there is no population approach, and it is an individual decision with few guidelines, then its value is not so easily determined and should not be broadly applied. Or, if there is some level of systematic approach but there are missing elements, then these should be enumerated and steps taken to close the gaps so that systematic, population-based approaches can simplify the choice and insertion points for the service. This manuscript explains the application of the Choudhry/Milstein findings and creates a decision process for choosing chiropractic services as part of the benefit plan for improving health value. The chiropractic services must be part of the total Health Value Supply Chain, so that care is coordinated within a patient-centered medical home, and the patient is an active participant in his or her health improvement.

When the population's health is aligned with the payer's business strategy, engagement in appropriate health services is enhanced, absenteeism and avoidable expense are reduced, and improved access and care coordination reduces friction. Using an Outcomes-Based Framework for the potential metrics and alignment of incentives, a plan is considered for improving the total health and economic outcomes of the population and the organizations. [In this paper, payer and employer are grouped into the category plan sponsor.]

This paper is the result of an Innovators' Summit on Chiropractic Services, held in Orlando, Florida on May 1, 2010. An invited group of Center Directors and Advisors along with Dr. Niteesh Choudhry and representatives from the Foundation for Chiropractic Progress attended. We wish to thank the Foundation for its support of the Summit and the work of the Center as we seek innovation that speeds health and economic improvement, and as we guide decisions through educational efforts that expand the horizon of Health Value.

Foundation for Chiropractic Progress

The Center for Health Value Innovation thanks the following people for their attendance at the meeting:

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OUTCOMES-BASED CONTRACTING™: The Value-Based Approach for Optimal Health with Chiropractic Services

Overview

The continued rise in health care costs, amplified with the new efforts of health care reform, have prompted plan sponsors to think differently about approaches to health benefits management. It is now evident that in order to effectively mitigate long-term health care cost trend, plan sponsors must focus on behavior change: higher engagement and more accountability for health outcomes. This focus on improved engagement and accountability is supported by plan designs that not only cause the consumer to change his or her behaviors, but also for the plan sponsor and the service providers to improve their accountability for better outcomes. This shared accountability is fundamental to sustainable health improvement. *[NOTE: for the purposes of this paper, plan sponsors and employers will represent the payers who design benefits and purchase services that improve health, hence we will use the term plan sponsor throughout this paper]*

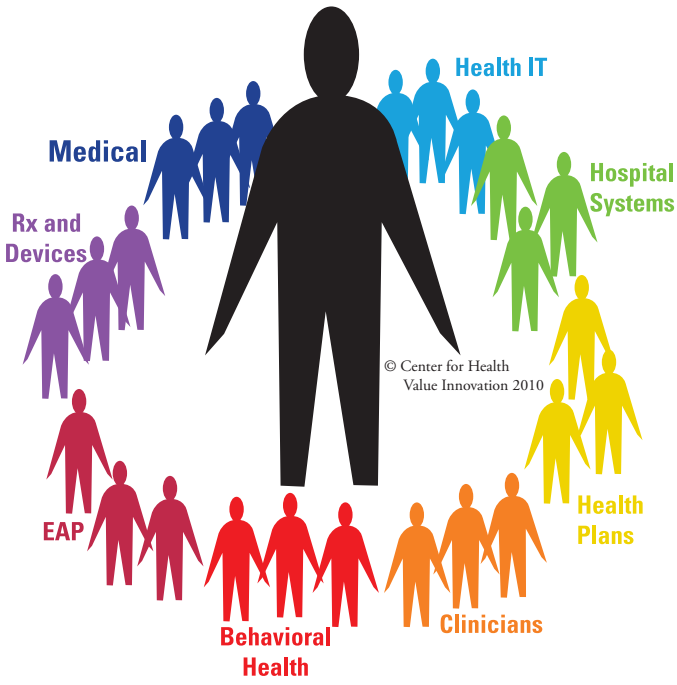
A value-based benefit design is a plan design that uses insurance and incentives to cause the desired behavior change. The design focuses on improved, sustainable outcomes over the long-term. It incorporates an understanding that some health care offerings create more value, or health and economic dividends, than others. For example, compliance with chronic condition care yields a higher value for plan sponsors than treatment of toenail fungus. For these high value services, plan sponsors incorporate "levers," or nudges, to incentivize their use, most often through reduced out-of-pocket beneficiary costs. Alternatively, for lower value services, a financial disincentive may be incorporated in the form of a higher co-pay or co-insurance. In this way, levers can be used to influence beneficiary behavior toward use of desired, higher value health services for improved health and economic outcomes. Similarly, levers can be applied across service providers to encourage higher quality and more efficient services, such as increasing reimbursement to the clinician who adopts an electronic medical record or expands his/her services to include care coordination, pharmacy education, and more.

Organizations that have incorporated a value-based approach into their health benefits design generally follow a similar path. Initially, the focus is on current risk and waste reduction, with implementation of disincentives for low value services and incentives for compliance with prevention and wellness guidelines as well as treatment of chronic conditions. As these health plans and plan sponsors become more comfortable with the strategy, additional value-based considerations are incorporated, focusing on future risk reduction, including incentives for individual adoption of healthy lifestyles, coupled with incentives to the clinicians who identify and manage risk early. With expanded application of a value-based approach, expert companies adopt a broader context for measuring value that incorporates health and productivity data to drive precision-focused benefit designs that are meaningful and relevant to the individual and also aligned with corporate goals.

Because of the need to expand access and affordability of care, individuals and organizations have widely adopted and engaged in the value-based approach. The value-based design can be expanded to include virtually any aspect of the Health Value Supply Chain. Levers can be used to incentivize quality improvement efforts or enhanced clinical outcomes for physician practices (such as pay for performance), hospital care (including safety initiatives and non-payment for "never" events), and health plans (such as eValue8 reporting of health plan quality and predictable case rates for complex care).

When the focus is on the engagement of the individual in his/her health, and the service providers align to promote the individual's health, then accountability for outcomes is shared by all, and the result is sustainable behavior change. (Figure 1)

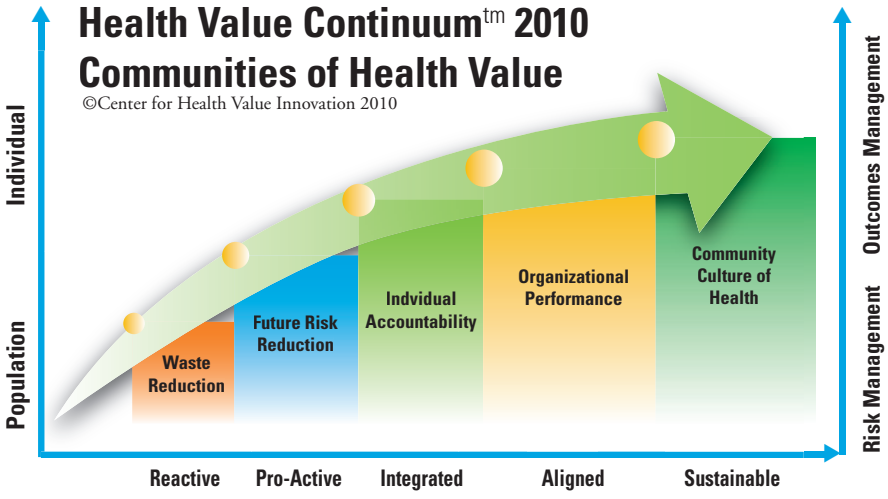
Figure 1:



While a value-based approach to health care is most often described in the context of employer benefits design, the concept can be expanded beyond the traditional focus of condition management and pharmaceutical coverage to include health coaching and lifestyle/financial counseling. The care continuum can be broadened to include other providers, such as chiropractors and health promotion educators, who may expand the early engagement of the consumer in healthier lifestyles. But the expansion demands that the value-based approach be held to the same standards on which it was founded: using evidence-based guidelines and comparative effectiveness data to accelerate adoption of personal and clinical management that yield better health and economic results, often through greater participation. In this context, then, the expansion to other care providers is justified for treatments for a particular condition, such as use of chiropractic care for low back and neck pain, as described in this white paper.

When the approach is consistent, then the changes that occur in one plan sponsor influence the community of care, and, therefore, change the systemic foundation of health care delivery to improve processes, quality and accountability throughout the community. This is the pathway toward community health value, as shown in Figure 2. The plan sponsors move through risk reduction to improving engagement and individual accountability, resulting in the organizational improvement of the plan sponsor as well as the development of the Community Culture of Health. In short, the community moves to targeted, person-specific benefits design, and the community moves from risk management to outcomes management, using health care to optimize health outcomes.

Figure 2:



CHIROPRACTIC: A POTENTIAL EXPANSION OF THE HEALTH VALUE SUPPLY CHAIN

One component of the health care delivery system that has not previously been considered in the context of value-based design strategies is chiropractic care. A recent analysis by two highly respected health care researchers, Niteesh Choudhry, MD, PhD, and Arnold Milstein, MD, MPH, and prepared for the Foundation for Chiropractic Progress suggests that chiropractic treatment of neck and low back pain may well represent a cost-effective alternative to usual medical treatment (1). It is this finding that represents the basis for this document, an examination of the potential for the inclusion of chiropractic care into a broader Health Value Continuum[tm].

In the aforementioned study, the authors developed an economic model to evaluate the relative cost-effectiveness of coverage of chiropractic physician services compared to coverage only for medical physician services for treatment of low back and neck pain. The focus on the employer setting recognized that the worksite is most affected by the total cost of pain and disability due to back and neck injuries, supporting the evidence that musculoskeletal disorders are often the highest cost to the plan sponsor (health plan or employer) through both direct and indirect costs (productivity, disability, and workers compensation claims).

The authors recognized that while clinical outcomes studies suggest that US chiropractic treatment may be comparable to other treatment methodologies, US-based cost-effectiveness analyses are not of sufficient quality to draw reasonable conclusions. As a result, the authors applied US commercial insurer-based price data to the results of high quality randomized cost-effectiveness studies from the European Union to model those findings for US employer populations.

Based on their literature review of clinical outcomes studies, the authors determined that chiropractic care is more effective than other modalities for treating low back and neck pain. With respect to annual health care costs, chiropractic care increased annual per patient spending by $75 for low back pain, and reduced spending by $302 for neck pain in comparison to medical physician care. Of note, prescription drug expenditures were not included in this analysis; inclusion would likely have contributed significantly to non-chiropractic costs of care.

Based on their literature review of clinical outcomes studies, the authors determined that chiropractic care is more effective than other modalities for treating low back and neck pain.

The authors then combined the clinical effectiveness and cost data for chiropractic and other care modalities to arrive at a measure of cost-effectiveness. Dividing differences in total costs of care per each episode of care by differences in their effectiveness provided estimates of effectiveness measured in cost per quality-adjusted life years (QALY) units[1]. The authors conclude with the statement that "...chiropractic care for the treatment of low back and neck pain is likely to achieve equal or better health outcomes at a cost that compares very favorably to most therapies that are routinely covered in US health care plans. As a result, the addition of chiropractic coverage for the treatment of low back and neck pain at prices typically payable in US employer-sponsored health plans will likely increase value-

As a result, the addition of chiropractic coverage for the treatment of low back and neck pain at prices typically payable in US employer-sponsored health plans will likely increase value-for-dollar by improving clinical outcomes and either reducing total spending (neck pain) or increasing total spending (low back pain) by a smaller percentage than clinical outcomes improve.

[1] A QALY is defined as a quality adjusted life year, and is used as a relative value to compare treatment outcomes. A value of 1 refers to "perfect" or symptom-free health, a value of .5 referring to moderate pain and limited self-care capabilities, and a value of 0 refers to death. The cost per QALY is calculated by determining the overall cost of therapy necessary to yield an additional year of ideal health. This incremental cost- effectiveness ratio is a measure that can be standardized for any considered therapy or test, and therefore has utility in determining the comparative value of proposed interventions. For further information, see: http://www.hsph.harvard.edu/review/review_fall_04/risk_whatprice.html.

for-dollar by improving clinical outcomes and either reducing total spending (neck pain) or increasing total spending (low back pain) by a smaller percentage than clinical outcomes improve.(1)

The use of chiropractic care by adults in the US has expanded during recent years, with a 57% increase from 7.7million in 2000 to 12.1 million in 2003 (2). From 1997 to 2006, the inflation-adjusted national expenditures on chiropractic care increased 56 percent from $3.8 billion to $5.9 billion. However, inflation-adjusted total mean expenditures per patient and expenditures per office visit remain largely unchanged (2).

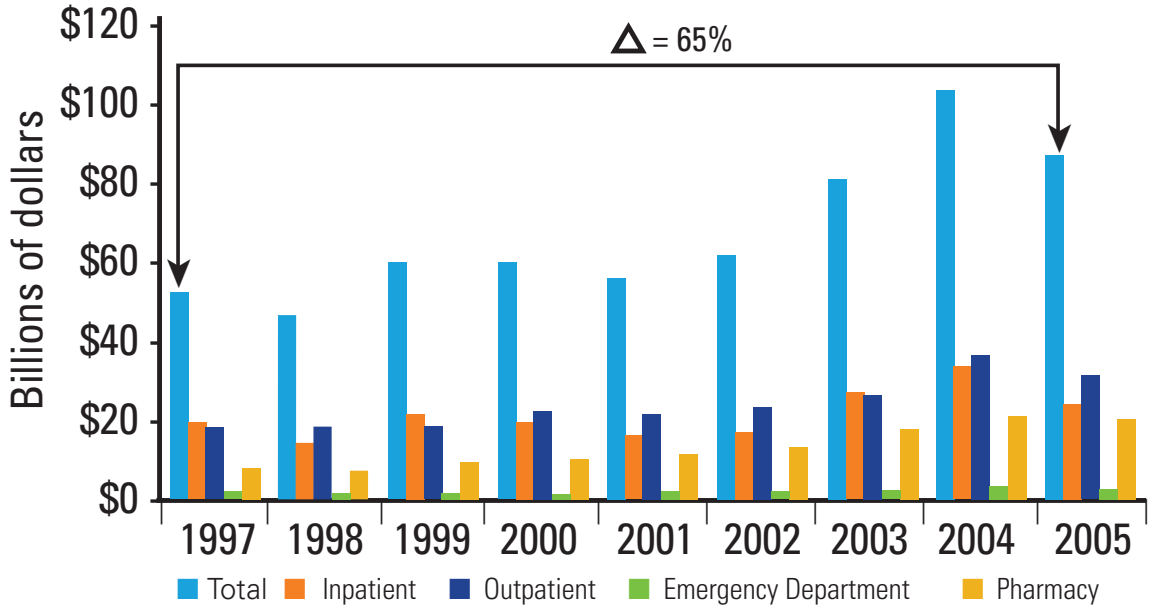
Should chiropractic care be included in a value-based insurance design? In order to better understand the implications of this question and this latest study with respect to employer health care costs and the potential cost impact of incorporating chiropractic into value-based insurance design, a discussion of the scope of neck and back pain issues is needed.

THE TOTAL COST OF LOW BACK PAIN AND NECK PAIN IN THE US

In the US, neck and low back pain account for annual health care expenditures approaching $85 billion dollars, accounting for 2% of all physician visits/annual exams, diabetes and hypertension)(3). In the workforce, neck and low back pain are prevalent conditions, with one study of eight employers noting greater than a 36% annual prevalence rate (4). Much of this cost is associated with surgical intervention (see Chart #1 from Choudhry12), for which regional variability in prevalence may well be the most significant of any surgical procedure in the US (5). Back surgery is most often performed where there are more resources available for the surgeries, including more inpatient/outpatient services (6). Yet, clinical outcomes data for back surgery have failed to demonstrate superiority with respect to non-surgical treatment (7). Furthermore, the variable causes of neck and back pain, as well as a lack of consensus treatment guidelines have further confounded the lack of clarity regarding optimal treatment approaches. In the US, chiropractic care may be sought by nearly half the individuals with chronic low back pain (8), perhaps reflecting the market demand for these services.

Chart 1:

Spinal disorders impose a substantial economic burden



Source: JAMA 2008; 299:656-64

Chart 2: INTERVENTIONS

Choudhry, presentation 5.1.10 (12)

	Low Back Pain Durations	Acute < 4 Weeks	Subacute or Chronic > 4 Weeks
Self-care	Advice to remain active	●	●
	Books, handout	●	●
	Applicaton of superficial heat	●	
Pharmacologic Therapy	Acetaminophen	●	●
	NSAIDs	●	●
	Skeletal muscle relaxants	●	
	Antidepressants (TCA)		●
	Benzodiazepines	●	●
	Tramadol, opioids	●	●
Nonpharmacologic therapy	Spinal manipulation	●	●
	Exercise therapy		●
	Massage		●
	Acupuncture		●
	Yoga		●
	Cognitive-behavioral therapy		●
	Progressive relaxation		●
	Intensive interdisciplinary rehabilitation		●

• Interventions supported by grade B evidence (at least fair-quality evidence of moderate benefit but no significant harms, costs, or burdens). No intervention was supported by grade A evidence (good-quality evidence of substantial benefit).

From the employer perspective, health care expenditures are not the only cost associated with low back and neck pain. Lost productivity resulting from symptom-related absence, as well as impaired on-the-job performance-reduced productivity and focus due to work-limiting symptoms while at work, also contribute to total employer costs. In a recent evaluation by the Integrated Benefits Institute, neck and back pain represented the fourth highest total health and productivity cost to employers, behind depression, obesity, and arthritis (9).

Given the variability in health care options available to employees and their family members for management of low back and neck pain, as well as the magnitude of health and productivity-related costs, employers may well benefit from careful consideration of cost-effective treatment options for inclusion in a value-based plan design. The American College of Physicians and the American Pain Society published the following guidelines for the treatment of lower back pain in 2007, including chiropractic care (10).

A DECISION PROCESS FOR INCLUSION OF CHIROPRACTIC CARE IN A VALUE-BASED DESIGN

While additional support for the cost-effectiveness of chiropractic care for back pain (11) has been published since the release of the Choudhry and Milstein study, several questions must be considered prior to incorporation of chiropractic in a value-based benefits strategy.

How might employers and plan sponsors decide whether inclusion of a value-based approach to chiropractic care is a reasonable consideration?

A framework for decision-making can be based on the approach portrayed in the following Table 1 (12).

Table 1:

Adopt New Treatment?	Improved Outcome	Worse Outcomess
Saves money	YES ("dominant strategey")	PROBABLY NOT
Costs money	MAYBE (usually if <$50K/ QALY)	NO ("dominated strategy")

For any new treatment, consideration of cost and clinical outcomes represent two major considerations for determination of the relative value of the therapy. The green box shows the ideal scenario, where an intervention saves money and yields improved outcomes relative to other treatment options. In contrast, the red box features a higher cost intervention that results in worse outcomes, and therefore doesn't merit further consideration for adoption. The scenario where the treatment saves money but yields suboptimal results is similarly unlikely to generate a great deal of interest because of perceived inferior value to patients and clinicians alike. The final scenario, where a treatment may be more costly but results in more favorable outcomes, may have substantial appeal, particularly if the cost of the treatment is below the accepted threshold cost of $50,000 per QALY. Related factors, including side effects, patient acceptance, and availability of treatment are also important considerations, but are not included in this cost-effectiveness evaluation.

Using this approach, the data from the Choudhry and Milstein analysis for treatment of neck pain with chiropractic or non-surgical care is shown in Table 2 (12) below. The analysis demonstrates that chiropractic manipulation is less costly in comparison to physician care and exercise, and yields better outcomes, as evidenced by the higher QALY value. The incremental cost-effectiveness ratio is negative, indicating that chiropractic treatment for neck pain in this analysis is cost-saving. This ideal scenario showcases the advantage of this framework for consideration as few treatments in health care fall in this cost-saving category (12).

Table 2:

Treatment arm	1-year values		Difference relative to physician treatment		Incremental Cost Effectiveness Ratio versus Physician Treatment ($QALY)
	Cost	Efficacy (QALY)	Cost	Efficacy (QALY)	
Physician care	$579	0.77	—	—	—
Chiropractic manipulation	$277	0.82	-$302	0.05	Cost-saving (-$6,030)
Exercise	$952	0.79	$373	0.02	$18,665

For back pain, the data more convincingly shows the cost-effectiveness of chiropractic services. As shown in Table 3 (12), below, chiropractic treatment of back pain is both less costly and yields improved outcomes in comparison to physical therapy. Relative to physician care, chiropractic treatment is more expensive, but yields better outcomes.

Table 3:

Treatment arm	1-year values		Difference relative to physician care		Incremental cost effectiveness ratio versus physician treatment ($QALY)
	Cost	Efficacy (QALYs)	Cost	Efficacy (QALY)	
Physician care	$2,355	0.618	—	—	—
Chiropractic manipulation	$2,431	0.659	$75	0.04	$1,837
Physiotherapy-led Exercise	$3,192	0.635	$837	0.02	$49,210
Manipulation and physiotherapy-led exercise	$2,507	0.651	$152	0.03	$4,591

Are there evidence-based chiropractic care guidelines for treatment of low back and neck pain?

The National Guideline Clearinghouse has a listing of several evidence-based guidelines for chiropractic care (13), but as with practice guidelines in allopathic medicine, it is unclear as to how compliant chiropractors are with these guidelines. It may be appropriate to establish reasonable expectations for adherence to evidence-based guidelines and transparent rankings of the clinicians to the guidelines in advance of adoption of a value-based benefits approach to chiropractic treatment.

How can employers/plan sponsors address concerns related to issues of treatment misuse or overuse in the management of low back and neck pain?

Because of the prevalence of back pain among individuals and its symptomatic impact, an expanding array of tests and treatments have been developed and incorporated into the current health care delivery system. Some of these have become widely used for indications that are not well validated, leading to uncertainty about treatment outcomes, cost, and safety (14). Some of these concerns are addressed in the guidelines published by the American College of Physicians/American Pain Society as previously noted (10). Compliance with clinical practice guidelines will help to ensure the delivery of evidence-based treatment, assuring plan sponsors of standards for care. Comparative effectiveness and cost-efficacy trials, and in particular, the Choudhry and Milstein manuscript that represents the basis for this white paper (1), will help to clarify the relative value of these interventions.

Considering the many different causes of low back and neck pain, should a value-based chiropractic care offering be available to all symptomatic individuals, or just those most likely to benefit from chiropractic treatment?

Current studies have provided some clarity with respect to differentiating between the therapeutic value of chiropractic in the treatment of acute vs. chronic back pain symptoms (15). But the difficulty with establishing a definitive diagnosis for neck and low back pain symptoms at the current time represents a significant barrier to defining more specific sub-groups of patients likely to derive the greatest benefit from chiropractic treatment. Hence, the summit participants from Center for Health Value Innovation believe that there should be a set of guidance criteria to facilitate identification of the patients most likely to derive clinical and functional benefit from use of chiropractic services.

Should there be indications for referral to medical care?

Yes. These should be included in treatment guidelines as a next step if chiropractic treatment fails to provide objective and symptomatic benefit.

Is there any reason to consider a collaborative, multidisciplinary approach to treatment of neck and low back pain that includes chiropractic care?

There is sufficient evidence in the medical literature to suggest that a multidisciplinary approach may be reasonable, but the selection of patients, the timing and role of the various interventions has yet to be optimally determined.

HEALTHPARTNERS INTEGRATED CLINIC USES THE EXPERTISE OF NORTHWEST HEALTH SCIENCES UNIVERSITY TO DOCUMENT THE OUTCOMES AND APPROPRIATE CARE FOR PATIENTS (21)

Recently, HealthPartners, a health care company serving over 1.25 million members and 500,000 patients in 70 clinics in the Minnesota, announced an integrated clinic that will house both family physicians and members of NWHSU's chiropractic faculty. The goal is to expand patient access to integrative health care and provide opportunities for education and research. The creation of the study initiative was part of the 2008 health reform law that included chiropractic in the bundled "basket" of services that was developed to replace "widgets of care."

The care will be individualized, based on comprehensive bio-psychosocial profiling, and guided by documented outcomes management and continuous quality improvement. Initial offerings will include:

- LBP (lower back pain) care pathway initially – other pathways under development
- Musculoskeletal disorders and chronic headache
- Disease prevention and wellness coaching
- Physician and chiropractor joint decisions on care plans based on integrative care pathways

According to Mark Zeigler, DC, President of the University, the partnership will be built on the measurements and outcomes associated with ongoing analysis of quality improvement.

- Database with clinical and cost data for analysis and research purposes
- Outcome measures on all patients with musculoskeletal conditions
  - Pain
  - Disability
  - General health status
  - Global improvement
  - Satisfaction
- Quality Indicators
  - Compliance with integrative collaboration principles
  - Compliance with documentation
  - Patient education understanding

Chiropractic Care in Value-Based Design for Musculoskeletal Conditions,
Presentation to CHVI's Innovators' Summit, May 1, 2010, by Dr. Mark Zeigler of Northwest Health Sciences University

Are there other considerations that should be included in the plan sponsor's approach to managing low back and neck pain?

Yes. There is evidence supporting the use of other therapeutic modalities, including cognitive behavioral therapy, exercise, and multidisciplinary rehabilitation (15), as well as participatory ergonomics and a graded return to work (16). However, these considerations may be difficult to incorporate from an employer perspective, unless an already integrated program exists, or if sufficient employer medical resources are available to support outsourced-program design and delivery.

At a conceptual level, inclusion of chiropractic benefits in a value-based benefits strategy resonates with existing foundational elements of value-based design (VBD). With chiropractic treatment representing a cost-effective – and therefore higher value – alternative to allopathic care for neck and low back pain based on the Choudhry and Milstein analysis, incorporation of chiropractic care in a value-based strategy could well make sense. Yet the available data points only to inclusion of manipulation therapy for neck and low back pain. Until additional research clarifies the role and comparative value of other chiropractic services, including nutritional counseling, homeopathic drugs, and nutritional or vitamin supplements, there is little, if any, compelling evidence to include these options in a value-based strategy.

Interestingly, as part of the care delivery process, what chiropractic treatment does appear to offer is a significant measure of patient satisfaction (17). Patients in connected relationships are more likely to be compliant with treatment recommendations (18), and satisfaction levels appear to be greater. Whether this is a function of the comparatively high-intensity, frequent visit-associated treatment provided by chiropractors or due to other factors is unclear. There is a growing recognition of the increased value that a longitudinal patient-clinician relationship can deliver, perhaps best represented by the patient-centered medical home. It is in this setting that patients can learn, through education, counseling and shared decision-making, to increase their ability to more effectively manage their health.

BLUE CROSS BLUE SHIELD OF MASSACHUSETTS WORKS WITH HEALTHWAYS TO GAIN CONTROL OF CHIROPRACTIC SERVICES AND UTILIZATION MANAGEMENT

In 2006, Blue Cross Blue Shield of Massachusetts (BCBSMA) sought Healthways' expertise in the area of chiropractic care. The state's largest health plan has since achieved significant savings while maintaining quality of care and member satisfaction. A utilization management process launched in 2008 is generating additional savings without reducing medically necessary care to members or disrupting the plan's quality relationships with network providers.

A Consultative Process

BCBSMA began working with Healthways to determine if an observed increase in use of chiropractic services was appropriate. Analysis of initial claims data indicated a high overall frequency of visits with a handful of members receiving more than 100 visits in one year. Work focused on defining what constituted medically necessary chiropractic care – the overarching commitment for coverage by the health plan to each member. The scope included identifying specific chiropractic services, procedures, and frequency for optimum clinical outcomes.

Provider Relationships a Top Priority

Early in the process, BCBSMA and Healthways established a dialogue with chiropractic providers to facilitate understanding and acceptance of the adopted clinical pathways. Following implementation, and after reviewing a savings opportunity analysis created by Healthways, BCBSMA set a threshold of 12 visits before requiring treatment authorization. The combination of chiropractic clinical pathway implementation and utilization management has resulted in substantial savings, achievement of the plan ROI targets, and meeting state regulatory relationships with network providers. Additionally, the new pathway fostered quality relationships with network providers and maintained the quality of care and member satisfaction.

This is an excerpt from a public report from Healthways that can be found at http://www.healthways.com/chiro/HWAY_BCBSMA.pdf

Is it reasonable to consider an outcomes-based approach to chiropractic treatment for neck and back pain?

The extension of a value-based design is the alignment of incentives for the plan sponsor, the patient, the service providers, and manufacturers – all of the stakeholders that support a better health outcome for the patient. Consideration of an outcomes-based approach ensures that measures that matter to the payer, the patient and the provider are aligned, and that risks and rewards can be shared. This population-based approach more effectively aligns both the selection of a particular treatment as well as the desired outcomes with the payment model. Unfortunately, the lack of objective metrics for chiropractic treatment outcomes makes this a difficult proposition.

However, one such measure could be the reduction in absentee days as a result of the low back pain – a return to functional performance for the patients with low back pain.

Another possible outcome measure could be the reduction of emergency services or pharmaceutical costs (pain medication), and a third measure could be the reduction in the use of imaging, inpatient days, or limited function across the population that is affected. It is important to remember that the outcomes-based contract is not applied to one patient at a time (which would make it more closely aligned with pay for performance metrics), but, rather, a holistic reduction in total costs across the total affected population segment. Therefore, increased exercise achievement, flexibility, and personal health management (the patients record on a personal health record the improvements in daily living, functional performance, and pain reduction, thereby demonstrating the personal engagement and adherence) can also provide a platform for measuring engagement and adherence and sharing rewards in outcomes.

On the opposite side of the argument, it is important to appreciate that pain is a subjective sensation, such that a given level of pain in one individual could be disabling, while in another, perhaps little more than an annoyance. Pain and the associated functional status may therefore be a difficult outcomes measure to use across a broad patient population. Other outcomes measures might warrant consideration, such as flexibility, work tolerance, disability duration, or satisfaction with care, but these do not necessarily provide a direct measure of treatment effectiveness. Furthermore, neck and back pain are symptoms of a range of medical conditions, each of which has a likely unique set of clinical treatment outcomes. With an agreed-upon set of clinical and functional outcomes criteria coupled with process guidelines, an outcomes-based contract could be put into place. Without these objective measures, however, an outcomes-based contract may not be feasible, and total value of health improvement may not be achieved for the plan sponsor or the provider.

The following chart suggests some opportunities to create an outcomes-based contract™ for the chiropractic services of low back pain and neck pain. In no way is this a complete list of options, but instead is meant to showcase the improved outcomes when accountability for improved health is shared by the payer and the provider.

Potential Framework for Outcomes-Based Contracting™ in Chiropractic Care

©Center for Health Value Innovation 2010	Waste Reduction	Future Risk Reduction	Individual Accountability	Organizational Performance	Community Health
	Solve for undermanaged, overmanaged, unmanaged	Solve for disengagement, nonadherence	Solve for engagement of economic impact with clinical impact	Solve for performance and productivity impact at population and enterprise levels	Solve for the economic stability of the community, including access to food/education/safety, distribution of resources, and improvement in health indicators
Prevention and Wellness	Reduce Out of Pocket (OOP) expenses for prevention/ wellness services	Reduce OOP expense for education on spine risks, ergonomic exercises	Deploy incentives for financial counseling, use of Personal Health Records, etc.	Purchase services/ products that support the population health improvement	Use community groups to amplify success, deploy risk management strategies
Potential Metrics	% Engagement in early treatment and return to work for chronic back/ neck pain	% Increase in functional performance % Increase in personal exercise that protect the spine	% Increase in use of PHR	% Decrease in absenteeism % Decrease in safety incidence	% Increase in organizations creating similar levers and metrics % Decrease in county-wide use of emergency services
Chronic Care Management	Reduce OOP expense for pharmacy or medical management	Reduce OOP expense for exercise counseling	Reward use of goal-tracking systems	Purchase services that improve adherence	Reward community services that support health status improvement
Potential Metrics	% Improvement in treatment adherence % Reduction in overuse of imaging	% Improvement in exercise/ nutrition	% Improvement in lost work time	% Reduction in disability days	% Improvement in total primary care visits as a result of appropriate chiropractic care
Care Delivery/ Guidance	Reduced OOP costs for tiered chiropractic networks	Reduced cost for ergonomic counseling to protect from injury	Use of inappropriate service is reduced	Total cost of care and absenteeism reduced	Appropriate care allocation through shared resources
Potential Metrics	% Increase in use of care coordination	% Reduction in use of pain medication	% Decrease in multi-use imaging	% Decrease in total cost of care/per member	% Decrease in avoidable inpatient days

Chart adapted from Nayer, C. *Outcomes-Based Contracting™: A Value-Based Framework for Optimal Accountability.*

OTHER CONSIDERATIONS THAT ARE OUTSIDE THE SCOPE OF THIS PAPER

While the Choudhry and Milstein study provides insight into the cost-effectiveness of chiropractic treatment for neck and low back pain, there are other factors that must be considered prior to generalizing these results more broadly.

Perhaps most importantly, the duration of the treatment modalities in the two studies that represented the basis for the Choudhry and Milstein analysis was limited to a finite period of time – 6 weeks for neck pain, and 12 weeks for low back pain. The analysis assumes that resource utilization in the US for treatment of neck and low back pain is comparable to that observed in the two European trials. For these results to be applied across the universe of chiropractic practitioners in the US, it is critical to ensure that chiropractic treatment in the US reflects a similar pattern of resource use.

Inclusion of a chiropractic benefit in a managed health care organization has been shown to attract a slightly younger population with fewer co-morbid conditions (19), which may in turn contribute to observed improvements in both clinical and cost outcomes. Also, while differences in outcomes between medical and chiropractic care may not be clinically modest, chiropractic treatment may result in a greater likelihood of perceived improvement, perhaps reflecting greater patient satisfaction with care (20). These considerations may be important with respect to patient self-selection of treatment modality, which could result in the improved engagement that is a precursor for better outcomes

The Choudhry and Milstein analysis also appears to be limited to chiropractic manipulation therapy for symptomatic neck and low back pain, and does not include other modes of chiropractic intervention for these two conditions. Importantly, the findings of this analysis cannot be generalized to chiropractic treatment of other symptomatic conditions.

Finally, this analysis has not incorporated the potential for additional costs resulting from use of imaging studies, medications, or surgical intervention, all of which could be reasonably anticipated to increase costs of non-chiropractic treatment.

While the results of the Choudhry and Milstein analysis support broader use of chiropractic care in the US for treatment of neck and low back pain, additional evidence is needed before widespread adoption of a value-based chiropractic benefit can be recommended. Each treatment and test discussed here has a role in managing back pain, but the evidence base for judicious use remains inadequate. Development of consensus clinical practice guidelines for these two conditions that effectively integrate medical, chiropractic and surgical treatment will help to accelerate the incorporation of chiropractic care into the treatment approach. Formal studies of comparative effectiveness for these conditions using treatment guidelines may be particularly helpful. Research focus should be expanded to include not only clinical outcomes, but also the treatment effects on function and return to work.

THE CONCLUSION: THERE IS A BASIS FOR CAREFUL CONSIDERATION OF CHIROPRACTIC CARE AS A FEATURED TREATMENT FOR NECK AND LOW BACK PAIN

As a result of this analysis, there is sufficient basis for plan sponsors to reevaluate their current chiropractic benefit for treatment of neck and low back pain. Plan sponsors (fully insured plan sponsors and self-insured employers) should work with their health plans to review their own claims experience with respect to treatments for neck and low back pain. This analysis will evaluate the feasibility of achieving better outcomes with superior cost efficiency. In other words, the information may well provide the impetus for further consideration as to how chiropractics can be most effectively incorporated into a value-based benefit design for these two conditions in order to derive the best health value for the payer and the patient.

To emphasize the insertion into the Health Value Continuum™, however, it is imperative that the chiropractic services be linked to a patient-centered medical home, with electronic health record capabilities that download to both the physician medical record and the individuals' Personal Health Record. Without this data tie-in, fragmentation in the care will be accentuated, and the opportunity to create a competent patient who manages his/her own health care will be lost.

Measures that are important to drive the investment in chiropractic services must include the improved engagement and accountability on the part of both the clinician and the patient. The patient must engage early, follow treatment guidelines, and demonstrate accountability for the outcome for the improved health and performance. The clinician must follow treatment guidelines, integrate care with the primary care provider, and demonstrate accountability for the course of care and return to work.

The Center believes that chiropractic care, under the parameters established by Choudhry and Milstein for low back and neck pain, is an effective option for treatment. However, we emphasize that there should be a stronger set of guidelines for identifying appropriate patients, appropriate pre-and post-evaluation of treatment, and use of inter-operational electronic health records so that the primary care physician, the chiropractic team, and the patient are achieving acceptable goals. We believe that this coordination of guidelines, goals and technology is indispensible for a smooth transition between care providers and back to the patient-in-charge, and we are ready to assist in developing the attributes with Drs. Choudhry and Milstein, with the Foundation for Chiropractic Progress, and with other interested parties.

In the meantime, based on the evidence presented here, patients with neck or low back pain should be fully informed about all available and appropriate treatment options, including the best available evidence for effectiveness, uncertainties, and risks. Patients should be encouraged to play an expanded role in therapeutic decision-making.

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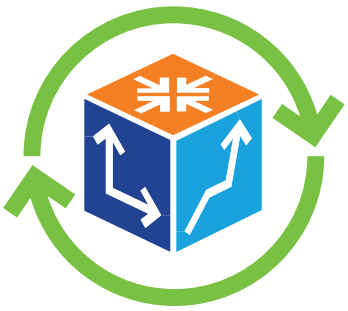

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