CONTROLLING PHYSICAL THERAPY AND CHIROPRACTIC UTILIZATION WITHIN THE WORKERS COMPENSATION SYSTEM – A RETROSPECTIVE REVIEW

A Three-Year Analysis of 63,000 WC Claims

Alan L. Colledge, MD
Medical Director, Labor Commission of Utah
Salt Lake City, Utah

Stephen Hunter, PT, OCS
Administrator, IHC Rehabilitation Agency
Intermountain Health Care
Salt Lake City, Utah

Joyce Sewell, MS
Director of Industrial Accidents, Labor Commission of Utah
Salt Lake City, Utah

Devon Horton
University of Utah
Salt Lake City, Utah

Bradley D Hunter
Brigham Young University
Provo, Utah

OVERVIEW

OBJECTIVE

Determine if the introduction of a visit authorization form requiring functional improvements would impact the utilization of physical therapy and chiropractic services.

SUMMARY OF BACKGROUND DATA

Medical costs are rising. Physical medicine services are a large portion of the cost. In some states the amount spent for such services is estimated to account for up to one third of the total medical costs.[1] A review of the billing for such services, for the same pathological condition, demonstrates significant practice variation irrespective of professional, national and state treatment guidelines. In 1997, the Labor Commission of Utah, under the recommendations of payers and providers, adopted the Restorative Rule R612-2-3 that mandated documentation of objective improvement prior to approval of ongoing/continuing treatment. For this study, 63,045 claims were analyzed from the largest insurer for workers' compensation in the state of Utah: 29,721 in 1997 (the year prior to initiation of the form), and 33,324 in 1999 (two years after the authorization process/RSA were implemented). Analysis included both a comparison of average number of f visits per case, and frequency of passive modalities (hot packs, ultra sound, and massage) and active procedures (therapeutic exercise, joint mobilization, and patient education).

RESULTS

Subsequent to the implementation of the RSA form, the average number of physical therapy and chiropractic visits per claim decreased by 34%, from 17.0 in 1997 to 11.4 in 1999 ($p<.001$). This equated to an estimated cost savings to the insurance carrier of $1,108,600. In addition, there was a demonstrable decrease in the frequency of passive modalities utilized over the same period. For example, hot pack usage decreased by 45%, electrical stimulation decreased by 22%, ultra sound utilization decreased 7%, and massage utilization decreased 38%. (we don't have data on this)Conversely, the use of active procedures increased significantly. For example, therapeutic exercise increased by 31% and joint mobilization increased by 27% (all changes significant @ $p=.001$). There was also an increase noted in the use of patient education.

CONCLUSIONS

Physical medicine remains an essential element of rehabilitation to mitigate physical loss incurred by an accident, illness, or event. Medical providers should utilize those modalities and procedures that can objectively and reliably demonstrate improvement in function. As discussed in this article, the use of an authorization process for rehabilitation services based on objectifiable improvement has been demonstrated to increase treatment efficacy and reduce overall utilization and cost. This study also illustrates how providers and payors working cooperatively with a government agency can result in a "win/win" outcome. This study demonstrates the positive impact that workers' compensation professionals can make in improving a state's compensation system. The Utah Labor Commission's RSA form/authorization process provides an improved model of provider expectation to which other states' workers' compensation systems should give serious consideration for controlling utilization.

INTRODUCTION

Rising medical costs continue to impact American businesses. Employers are paying for these increasing expenses in order to provide both group health, and workers compensation benefits for their employees. This year, health-care premiums for families in employer-sponsored plans soared 14 percent in 2003, compared to the overall consumer prices rise of 2.2 percent[2]. This is the third year of double-digit growth for medical care and the biggest spike since 1990, translating to an annual family premium of now at $9,068[3]. This increasing financial burden to business is causing many employers to discontinue offering group health insurance. Workers' compensation has been a legislated right for all workers in America since 1949.[4] Providing this benefit, however, comes at significant cost to our society. Workers' Compensation, originally implemented as a way to assist injured workers, has evolved into an often-cumbersome system that can impose a significant financial burden upon employers. The cost of treating and compensating injured workers in the United States has risen from $2.1 billion in 1960 to over $171 billion in 1997[5], and now accounts for nearly 3.5% of total payroll.[6]. A recent survey indicated that California's businesses believed that workers' compensation costs are the biggest single cost issue facing them today, costing an estimated $25.1 billion. The average reserves for an industrial injury in most states is approximately $26,000, with California's at $71,000.[7] In such an environment, it is critical for health plan administrators and medical professionals to work more closely together in an effort to identify viable solutions for cost management.

PHYSICAL MEDICINE SERVICES

Up to one third of the total workers' compensation medical costs are derived from physical medicine services, including the use of hot and cold packs, therapeutic exercises, and massage. Managing the cost of physical medicine services is a necessary step in total cost control for Workers Compensation. This is difficult because most states and group health plans have no guidelines for regulating utilization of such services. In addition, a wide variety of health care providers (physical therapists, occupational therapists, chiropractors, osteopaths and medical doctors) deliver these physical medicine services and do not agree on standardized treatment guidelines. [8]

RE-DEFINING EFFECTIVE TREATMENT

In a routine medical practice, only 10% - 20% of treatments provided are supported by the published, scientific research.[9] This lack of scientifically based medical treatment is demonstrated by the significant geographic variability in the medical care given for the same condition in the United States.[10] [11] In Texas, for example the state workers' compensation system recently completed an extensive report on the wide practice variations of those providing physical medicine among practitioners treating low back pain. [12] The variance for treatment modalities was as high as fifty times.

When treating work related injuries, the goal of treatment should be improving the individuals function and return to work. In this article, treatments that accomplish this goal are defined as "effective". Treatments that lack scientific support to improve function and return to work are defined in this paper as "ineffective". Ineffective treatments include passive modalities such as traction, acupuncture, laser therapy, diathermy, heat, ultrasound, massage, and electrical stimulation. [13] These treatments may provide some measure of symptomatic relief, but evidence is lacking that they provide any long-term efficacy to facilitate healing.[14] [15] [16] These modalities should be used with restraint, and predominately for *short term relief of acute pain.*

The Workers' Compensation system was designed to facilitate injured workers *return to productivity*. Some practitioners have considered the measure of returning workers to work to be

'harsh' or 'inappropriate' as an indicator of a successful outcome. Although reducing the patient's pain is important, the true measure of success is a return to productive life. As an example, one study reported that 52% of injured workers undergoing spinal cord stimulation for pain obtained good to very good relief. When only *pain relief* is the standard of success, this would appear to suggest spinal cord stimulation as an efficacious modality. However, in the same study, less than 5% of those included were able to return to work[17]. If *functionality or working* is the measure of success, this same study would suggest a *95% failure rate*.

EFFECTIVE TREATMENT

Mayer emphasized in a 1985 study the effectiveness of functional restoration. He concluded that the focus of treatment should not be reducing pain, but improving function with an emphasis on return to work.[18] The treatment in this study focused on aerobic exercise, physical conditioning, and psychosocial support. These are essential to recovery from an injury for both an athlete and a worker. [19] [20] [21] Recovery and return to function are dependent on the conditioning of the protective and supportive musculature to *compensate* for any structural deficit caused by the injury. A worker may return to full function, not because the condition is "cured" or because they are "pain free", but because there is sufficient muscular compensation and endurance reserves to allow work without significant further risk for re-injury.

Effective treatments supported by the literature include: exercise[22], manual therapy[23], manipulation[24], and back education[25]. These treatments were also supported in the 1994 Agency for Health Care Policy and Research (AHCPR) Clinical Practice Guidelines for Treating Low Back Pain. These findings have also been studied and published in the Physical Therapy Journal.[26]

To return an injured employee to work, the provider must become familiar with the physical requirements of the job. The essential physical job functions should become the benchmarks to design an injured worker's rehabilitation program. On the initial visit, the worker should be tested to determine the current functional status, and identify deficits limiting an individual's return to work. Treatment is then targeted to improve the patient's functional ability. Lack of progress or a plateau in performance would indicate to the medical provider the need to change or discontinue treatment. This plateau may indicate the patient has reached maximal medical stability.

For example, if an injured letter carrier must lift 75 lbs. from the floor to return to full duty, but can only lift 20 lbs. at the beginning of therapy, then the focus of rehabilitation would be to increase the patients lifting ability. If after two weeks of treatment, the worker was able to lift 60 lbs., then the treatment would appear to be effective and continued treatment authorized.

THE UTAH RESTORATIVE SERVICE MODEL

In 1996 insurance carriers were attempting to control physical medicine costs by arbitrarily limiting utilization. In response, a committee was formed by the Utah State Labor Commission to develop an authorization process for restorative services visits. The committee included representation from payers, claimant and defense attorneys, providers (PT, OT, DC, MD), and administrators. A restorative services authorization (RSA)form (fig. 1) was developed. It

required those providers billing for restorative services to test and record three objective measurements on that worker on the first visit. These include 1. Three essential physical functions (i.e. lifting, carrying, ROM, sitting, tolerance, etc.) necessary for the injured worker to return to work. 2. Improvement in hours working and 3. Reduction in subjective (patient-reported) pain were also recorded. The injured worker's capacity was then compared with the essential job functions obtained from the employer. Treatment was then designed to meet these essential job functions. Every sixth visit, the patient's capability, as related to their baseline measurements was reported. Authorization for continued treatment was granted dependent upon the patient's improvements in these three parameters. The use of this RSA form by all those billing under the restorative service section of the fee schedule, was mandated by rule

PURPOSE

The purpose of this study was to determine if the introduction of the RSA form would impact: (1) The utilization of restorative services (2) Types of treatments used by providers, and (3) The cost to the payer.

PROCESS OF RSA FORM USE

Important components of the RSA include: patient demographic and payer information, a treatment plan, and the patient's subjective interpretation of pain. The functional section includes space for documenting at least three essential physical functions of the patient's job, with columns for re-testing the patient if more than eight (8) treatments are needed. The provider also documents the date of anticipated recovery, an indication of the patient's compliance with treatment, hours working, and the number of visits requested. The completed form is faxed to the payer. The payer then can then approve or deny the requested visits, based on *objective improvement.*

ANALYSIS

All restorative service claims for the state's largest workers compensation carrier were analyzed one year prior to the initiation of the RSA and then again two years after implementation of the RSA.

Table I illustrates a summary of the comparison results. In all, 63,045 claims were analyzed: 29,721 in 1997 (the year prior to initiation of the form), and 33,324 in 1999 (two years after the authorization process/RSA were implemented). Analysis included a comparison of the number of visits per episode as well as the frequency of the use of passive modalities (hot packs, ultra sound, and massage) versus more active procedures (therapeutic exercise, joint mobilization, and patient education).

RESULTS

Results are presented in table 1.

The frequency of average visits per claim decreased by 34% from 17.0 in 1997 to 11.4 in 1999 ($p<.001$), equating to estimated cost savings to the carrier of $1,108,600. In addition, the frequency of passive modalities decreased. For example, hot pack usage decreased by 45%, electrical stimulation decreased by 22%, ultra sound utilization decreased 7%, and massage utilization decreased 38%. Chiropractic manipulation decreased 30%. Conversely, the use of

active procedures increased significantly. For example, therapeutic exercise increased by 31% and joint mobilization increased by 27%. There was also an increase noted in the use of patient education.

DISCUSSION

The paramount finding in this study is that treatment utilization can be more consistent and efficacious by utilizing a form and process that makes treatment approval contingent on functional improvements.

There are several reasons that could explain the outcomes of this study:

- The provider had determined objective goals before and during treatment and that payment was contingent upon.
- The focus on improvement of the physical functions with job specific goals may have influenced the provider to apply active treatments (exercise, joint mobilization, and patient education).
- The use of treatments supported by the literature may have shortened the healing process and therefore fewer treatments were needed.
- Providers/Patients were aware that documented improvement was necessary for continued treatments and both parties learned to respond accordingly.

CONCLUSION

Physical medicine is an essential part of rehabilitation to help mitigate the physical loss incurred by an accident, illness, or event. Medical providers should utilize those treatments that demonstrate improvements in function.

Following implementation of the RSA form, PT and chiropractic utilization per visit in Utah have decreased 34% per injury. The use of passive modalities has been reduced and active procedures have increased. This study also demonstrates how working together with a government agency resulted in a "win/win" outcome. Providers retained the control of determining length and frequency of treatment, while payers were given information that demonstrated a savings in cost.

Utah is now one of the least-costly states[27] for a manufacture to obtain workers compensation insurance coverage – despite the fact that Utah has successfully maintained its medical fee schedule above the national average and wage replacement at $579 per week. Contributing to this cost-effective outcome has been the adopting of the RSA form. This paper demonstrates the significant positive impact that professionals involved in workers' compensation can make in improving a state's compensation system. The Utah Labor Commission's RSA form/authorization process provides an improved model of provider expectation to which other states' workers' compensation systems should give serious consideration for controlling utilization.

For further discussion, Contact

Alan Colledge, MD, PT
Medical Director of the Labor Commission of Utah
P.O. Box 146610
Salt Lake City, Utah 84224-6610
801-530-7611

ACKNOWLEDGMENT

Jeff States, DC; Jeff Wheeler, DC; Craig McQueen, MD; Robert Short, Leeann Havis, Workers Compensation Fund of Utah; Leslie Peterson, Wasatch Crest; Dianne Edwards, IHC Risk Management.

Analysis Of Workers" Compensation Claims Before And After Implementation Of RSA Rule			
Year	1997	1999	p
Claims (63,045 total)	29,721	33,324	
New Visits	1880	3142	
FU Visits	13430	13168	.001
frequency of visits per claim	17.0	11.4	.001
Hot pack	2119	1172	.001
Electrical stimulation	7802	6086	.001
Ultra sound	7255	6759	.001
Massage	2882	1792	.001
Chiropractic manipulation	6052	4516	.001
Therapeutic exercise	26793	38968	.001
Joint mobilization	6485	8898	.001
Cost Saving	$1,108,600		

Table One: Analysis of Workers' Compensation Claims Before and After Implementation of RSA Rule

Figure one, The RSA Form

[1] California Workers' Compensation Institute. October 16, 1997:97-119.

[2] Jennifer Nii Energy costs fuel the biggest rise in 5 months Deseret Morning News and The Associated Press September 17, 2003

[3] Theresa Agovino Health-care costs leap for 3rd straight year Associated Press Deseret News September 10, 2003

[4] U.S. Chamber of Commerce, A1997 Analysis of Workers= Compensation Laws,@ 1997.

[5] Leigh JP, Markowitz SB, Fahs M, Shin C, Landrigan PJ, Occupational injury and illness in the United States. Arch Intern Med 1997 Jul 28;157(14):1557-68.

[6] US Department of Labor, Bureau of Labor Statistics.

[7] Jones Del California proves too costly for departing businesses USA TODAY 10/1/2003

[8] Monitor Published by the Research and Oversight Council on Workers' Compensation Vol. 7, No. 2, Special Edition – August 2002 Texas Special Edition pages 4-9

[9] Williamson JW, Braswell HR, Horn SD. Validity of medical stag judgments in establishing quality assurance priorities. Med Care 1979 Apr; 17(4): 331-46.

[10] Wennberg JE. Understanding geographic variations in health care delivery. NEJM 340 (1): 52

[11] Keller RB, Soule DN, Wennberg JE, Hanley DF. Dealing with geographic variations in the use of hospitals: The experience of the Maine medical assessment foundation orthopaedic study group. J Bone Joint Surg 1990. Oct; 72A(9): 1286-93.

[12] Monitor Published by the Research and Oversight Council on Workers' Compensation Vol. 7, No. 2, Special Edition – August 2002

TEXAS SPECIAL EDITION pages 4-9

[13] Acute low back problems in adults: assessment and treatment. Agency for Health Care Policy and Research (AHCPR) Clinical Practice Guideline. No 14 Rockville, Maryland, Dec 1994.

[14] Philadelphia Panel Evidence-Based Clinical Practice Guidelines on Selected Rehabilitation Interventions for Low Back Pain Physical Therapy. Vol81. Num10 . Oct 2001 1641

[15] Acute low back problems in adults: assessment and treatment. AGHCPR guidelines. No 14 Rockville, Mayland, Dec 1994.

[16] Update Quebec Task Force Guidelines for the Management of Whiplash-Associated Disorders TECHNICAL REPORT Motor Accident Authority Jan2001.

[17] Kupers RC, et al. Spinal cord stimulation in Belgium: Pain 56:211-216, 1994

[18] Mayer TG, Gatchel RJ, Kishino N, et al. Objective assessment of spine function following industrial injury: A prospective study with comparison group and one-year follow-up. Spine 1985; 10:482-93.

[19] Bouchard C, et al. Exercise, fitness and health: A consensus of current knowledge. Chapt 45: Exercise, fitness and back pain. Human Kinetics Books. 1990:533-540.

[20] Estlander AM, et al. Effects and follow-up of a multimodal treatment program including intensive physical training for low back pain patients. Scand J Rehab Med 23:97-102, 1992.

[21] Lindstrom I, et al. The effect of graded activity on patients with subacute low back pain: a randomized prospective clinical study with an operant-conditioning behavioral approach. Physical Therapy Vol 72 No 4, April 1992.

[22]Lee D. Cady, MD, et al.: Strength and Fitness and Subsequent Back injuries in Firefighters. Journal of Occupational Medicine ? Vol 21, No. 4/April 1979

[23] Aure OF, Nilsen JH, Vasselijen O. Manual therapy and exercise therapy in patients with chronic low back pain: A randomized, controlled trial with 1-year follow-up. Spine 2003; 6:525-32.

[24] Flynn, T et al. A clinical prediction rule for classifying patients with low back pain who demonstrate short-term improvement with spinal manipulation. Spine 2002; 24:2835-43.

[25] Buchbinder R Jolley D Wyatt M Population based intervention to change back pain beliefs and disability: three part evaluation 1516 BMJ VOLUME 322 23 JUNE 2001

[26] Philadelphia Panel Evidence-Based Clinical Practice Guidelines on Selected Rehabilitation Interventions for Low Back Pain Physical Therapy. Vol81. Num10 . Oct 2001 1641

[27] Workers' Compensation Research Institute 2003 March Vol 14, no. 7 , page 135