Is Physical Therapy Effective and Efficient for Musculoskeletal Conditions?

Ivan Mulligan PT, DSc, SCS, ATC, CSCS
Pennsylvania Physical Therapy Association
Payers Summit-2015

Objectives

- Examine the cost of the management of musculoskeletal impairments to the health care system
- Examine how a physical therapist determines diagnosis, performs an effective examination, and determines the most appropriate treatment
- Identify and describe a streamlined system to treat musculoskeletal impairments
- Discuss how physical therapy compares to other treatments in cost and outcomes

Cost of Health Care for Musculoskeletal Disease

![Cost of Health Care Chart]
Utilization of Health Care For Musculoskeletal Disorders

- In data from 2002-2004
  - 85% patients have at least one physician visit (average 6)
  - Visits increased from 425.5 to 507.9 million
  - 40% to 52% of patients visited a non-physician (PT, Chiropractic, OT, etc.)
  - Visits increased from 197.5 to 332.8 million
  - 83.3% to 83.5% of patients filled at least one prescription
  - Total prescriptions increased from 995.3 million to 1.6 billion

Does Direct Access increase utilization?

- Purpose: Systematic review literature examining health care costs and patient outcomes in PT by direct access compared to referral for PT
- Data/conclusion: There is level 3 and 4 studies supporting PT by Direct Access improves patient outcomes and decreased costs
Case Scenario

• A 45-year-old male with back pain that began about 10 days ago. Patient reports he was doing a lot of yard work over the weekend and pain began the next day. Pain is reported as a 4 on average and does increase to 8 after sitting for a period of time or driving. He describes pain down to the side of the upper leg not past the knee. Patient reports he is able to continue his job a bank manager but does have “get up and move around and the pain subsides.” He states he is able sleep at night but is uncomfortable in the morning.

• Based on the scenario above, what are this patient’s options?

Current treatment for LBP

The Providence Medical Group presented a retrospective analysis of “usual care” for a patient with acute non-descript low back pain. 227 patients were followed until their acute low back pain resolved. The following information was collected:

• 77 patients (34%) had two physician visits
• 25 patients (11%) had 3+ physician visits
• 57 patients (25%) had imaging studies performed (Radiographs, MRI, CT Scan)
• The average cycle time from initial visit to discharge from care was 52 days.
How does a PT determine Diagnosis and Treatment

• Systematically reviewed 327 journal articles
• Reviewed diagnosis related to low back pain, examination techniques and interventions.
• Provides the clinician the level of evidence (I-V) and the grades the recommendations (Strong evidence A- Expert Opinion F)

Low Back Pain

• Examination (Highest Level of Evidence)
  • Use of Outcome Measures
  • Lumbar Range of Motion
  • Trunk Muscle Power and Endurance
  • Straight Leg Raise/Slump Test

• Intervention (strongest evidence)
  • Manual Therapy including a Grade V Mobilizations
  • Trunk Coordination, Strengthening and Endurance Exercises
  • Directional Preference Exercises
  • Patient Education

• Intervention (lesser evidence)
  • Traction
  • Modalities

Virginia Mason Model for Low Back Pain

• Patient sees a Physical Therapist for (examination, determine the plan of care, and begin treatment).
• Consult with the primary care physician’s office regarding the intention to treat the patient.
• the primary care physician was informed of all treatment the patient received.
• Second, patients demonstrating findings requiring further evaluation referred to physician (i.e. identification of "red flags" or signs and symptoms not associated with musculoskeletal pain).

• Results
  • Limited involvement of the physician (fewer visits)
  • Same day access to care when needed
  • Rapid return to function
  • Over a 95% patient satisfaction rating
  • Affordable for both providers and patients
  • Decreased use of imaging studies (use of MRIs were performed in 8% of the patients)
Virginia Mason Model for Low Back Pain

Implementation at DCR

Other examples

In the intention-to-treat analysis, the mean improvement in the WOMAC score after 6 months was 20.5 points (95% confidence interval [CI]: 17.9 to 23.9) in the surgical group and 18.5 (95% CI: 15.6 to 21.5) in the physical therapy group (mean difference: 2.4 points; 95% CI: -1.8 to 6.5). At 6 months, 51 active participants in the study who were assigned to physical therapy alone (80%) had undergone surgery, and 9 patients assigned to surgery (10%) had not undergone surgery. The results at 12 months were similar to those at 6 months. The frequency of adverse events did not differ significantly between the groups.
Other points related to this study

- Estimated cost surgery vs. physical therapy
  - Average cost of meniscectomy - $5,000
  - 118 of the 169 subjects in the physical therapy group completed the study with a similar outcomes to surgery one year following treatment
  - Potential savings $400,000 to the health care system ($590,000 - $190,000 of care performed)

Non-traumatic rotator cuff Outcome following PT only as compared to PT with Surgery-one year follow-up

- Subjects above the age of 55
- 173 subjects placed into one of three groups (PT, acromioplasty and PT, or rotator cuff repair, acromioplasty and PT
- Results suggested that all groups are similar in outcomes one year post-op
- Conservative treatment should be considered as primary method of treatment
- Given these results 55 subjects did not undergo surgery and saved the health care system potentially saving the system over $1,000,000
Summary

• Musculoskeletal disorders are a significant cost to the system
• Direct Access has been shown to be effective in the care of patients
• Evidence is available for several regions of the body to assist in the determination of the impairment, selecting the proper examination techniques, and interventions
• Effective models of care for various musculoskeletal disorders are being developed
• Although more prospective studies are needed, physical therapy services have been shown to potentially save downstream costs.
• PPTAs and its members continue to investigate cost of musculoskeletal care and will continue to examine most effective models of care

References
