

# Psychological Evaluations And Cost Offset For Medical Patients

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Evidence suggests that psychological evaluations have the potential to produce significant cost offsets in medical settings. One of the conditions for which there is the most evidence of this is chronic pain, with back pain being the best example.

Patients with chronic back pain are sometimes offered invasive treatments, such as spinal surgery or pain implants. AHRQ tracked the number and cost of all hospital procedures in the US in 2003 (Merrill & Elixhauser, 2006), and three procedures commonly used for patients with chronic pain generated costs of almost \$40 billion dollars during that year (Table 1). These procedures, especially spinal fusion, are sometimes medically necessary. However, stimulators and pumps are always elective procedures, and the other procedures are often elective as well. These procedures were associated with 3600 deaths during the hospital stay, but this must be interpreted with caution as the cause of these deaths is not specified. In many cases, a psychological evaluation costing a few hundred dollars could be used to screen out patients who are unlikely to benefit from these procedures, whose initial costs range from \$20,000 to \$50,000.

| <b>Table 1</b>  |                       |                  |                         |  |
|---|-----------------------|------------------|-------------------------|--|
| <b>Hospital Costs In 2003 Associated With Invasive Procedures</b> |                       |                  |                         |  |
| <b>Commonly Used With Chronic Pain *</b>                          |                       |                  |                         |  |
| <b>Procedure</b>  | <b>Number in 2003</b> | <b>Mean Cost</b> | <b>Total Cost</b>       | <b>Approximate Deaths During Hospital Stay</b> |
| Spinal Fusion   | 325,998               | \$50,300         | 16,397,699,400          | 978  |
| Laminectomy   | 505,487               | \$31,900         | 16,125,035,300          | 1,011  |
| Stimulator/Pump   | 322,187               | \$21,300         | 6,862,583,100           | 1,611  |
| <b>Total</b>  | <b>1,153,672</b>      |                  | <b>\$39,385,317,800</b> | <b>3,600</b>                                   |

\* Data from : <http://www.ahrq.gov/data/hcup/factbk7/factbk7d.htm>

The costs in Table 1 are charges incurred during the hospital stay only, and are not the total cost of care. Recovery from a spinal fusion often takes a year, and physician visits, medications and physical therapy costs are common during this time. Invasive procedures also carry the risk of adverse events, and costs associated with those (Turner, Loeser, Deyo, & Sanders, 2004).

Additionally, pain implants require maintenance visits for life, with pain pumps requiring an invasive procedure once a month or so to fill the pump with medication, and both stimulator and pumps can fail over time, and replacement requires surgery. As a result, some data suggests that the long-term cost for these procedures is much higher, with the long-term cost of spinal cord stimulators approaching double the initial costs above (Mekhail, Aeschbach, & Stanton-Hicks, 2004). Additionally, given that the data from Table 1 was gathered in 2003, current costs could be higher.

With regard to outcome, one study found that while an objectively successful fusion occurred in 84% of lumbar fusion patients, nearly half were dissatisfied with their outcome, and many were totally disabled at follow-up (LaCaille, DeBerard, Masters, Colledge, & Bacon, 2005). Another systematic review found that only 57% of total disc replacement and 46% of lumbar surgical procedures were fully successful (Freeman & Davenport, 2006). One recent systematic review determined that for patients with back pain, fusion surgery was no better than cognitive behavioral therapy (CBT) with regard to long-term outcome (Mirza & Deyo, 2007). Similarly, both CBT and physical therapy were found to be effective for the treatment of low back pain, but physical therapy did not lead to improvements beyond what could be accomplished with CBT alone.

In general, a comprehensive review of the literature found that the validity of psychological tests was equal to that of medical diagnostic tests (Meyer, et al., 2001). With regard to back pain, a systematic review determined that psychological assessments have demonstrated an ability to predict the outcome of spinal surgery procedures (den Boer, et al., 2006). Additionally, other studies have shown that psychological factors can predict the outcome of both invasive and noninvasive treatments with an 80% success rate or more (Block, Ohnmeiss, Guyer, Rashbaum, & Hochschuler, 2001; Gatchel, Polatin, & Mayer, 1995; Giordano & Lofland, 2005). In the case of back pain, a recent study demonstrated that psychological assessment can be more predictive

of outcome for patients with back pain than commonly used medical tests such as MRIs or discograms (Carragee, Alamin, Miller, & Carragee, 2005).

Overall, the case for presurgical psychological evaluations is strong enough that they have been recommended by multiple evidence-based medical treatment guidelines (American College of Occupational and Environmental Medicine, 2008; Colorado Division of Worker Compensation. Chronic Pain Task Force., 2007; Work Loss Data Institute, 2008). Given that relatively inexpensive psychological assessments may be able to identify patients unlikely to benefit from expensive invasive treatments that have significant risks, a greater use of these psychological assessments is indicated.

Recent research has concluded that consensus psychosocial risk factors for a poor surgical outcome also can predict poor outcomes a variety of other medical treatments as well (Bruns & Disorbio, 2009). With regard to pharmaceutical treatments for pain, a systematic review of the literature determined that opioid medications are commonly used (Martell, et al., 2007). While pain medications were effective for the treatment of acute conditions however, long-term efficacy was uncertain, and aberrant use of opioids was observed in up to 24% of cases (Martell, et al., 2007). The long-term cost of these medications can be considerable (Table 2), and CBT may be a more cost-effective alternative.

Studies suggests that psychological assessments are able to predict aberrant opioid use (Manchikanti, et al., 2006; Manchikanti, et al., 2007). Consistent with this, recent medical guidelines, based on a systematic review of the literature, have recommended evaluations by mental health professionals to control for aberrant medication use (Chou, et al., 2009). Another study suggested that even though opioids may decrease pain, they may increase disability (Webster, Verma, & Gatchel, 2007). The use of opioid pain medications has some inherent risks. For example, the FDA has issued warnings of severe adverse effects including death from some pain medications<sup>1</sup>. In contrast, CBT shares no such risks.

In comparison to many medical treatments, the cost of psychological interventions are relatively modest. It has been reported that the typical number of CBT treatment sessions for patients with

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<sup>1</sup> see: [http://www.fda.gov/medwatch/safety/2007/fentora\\_deardoc\\_%20Letter\\_09-10-07.pdf](http://www.fda.gov/medwatch/safety/2007/fentora_deardoc_%20Letter_09-10-07.pdf)

chronic pain is about 10 (Thorn, McConley, & Walker, In Press). If these are groups sessions, the total cost of 10 sessions of treatment would be about \$200. A year of once a month follow-up group maintenance care would add \$240. If these services were offered as individual treatment, the costs would be \$920 and \$1104, respectively. Overall, the cost of CBT treatment is far less than surgery, and less than pharmacotherapy. CBT shares none of the serious risks, and has been shown to produce good outcomes (Morley, Eccleston, & Williams, 1999).

### Conclusions

By distinguishing patients who are good candidates for surgical procedures from those who are not, presurgical psychological evaluations can play an important role in helping to control medical costs. More generally, behavioral risk factors are known to be associated with a broad range of medical conditions (Mokdad, Marks, Stroup, & Gerberding, 2004; Wiggins, 1994), and the most recent research has concluded that a core set of psychosocial risk factors are associated with poor outcomes from a variety of medical treatments (Bruns & Disorbio, 2009). While further research is needed, increased use of psychological assessments in the medical setting is indicated.

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**Table 2**

**The cost of pharmacotherapy for pain: Example medications\***

| Medication         | Dose              | Quantity/<br>Month | Cost / month<br>(drugstore.com) | Cost / Year |
|--------------------|-------------------|--------------------|---------------------------------|-------------|
| MS Contin          | 60 mg             | 60                 | \$300                           | \$3,600     |
| Percocet           | <u>7.5-500mg</u>  | 120                | \$480                           | \$5,760     |
| Duragesic<br>Patch | <u>5 50mcg/hr</u> | 10                 | \$410                           | \$4,920     |
| Actiq              | <u>800mcg</u>     | 90                 | \$5,700                         | \$68,400    |

\* All costs are for mid-range doses. It should be noted that it is not uncommon for patients being treated for chronic pain to be on several medications. The costs above do not also do not include visits to the prescribing physician

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