

BROOKS SM

Rising Healthcare Costs with Chronic Pain and the Interdisciplinary Rehabilitation Solution

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National Pain Strategy

- 2010- National Institutes of Health(NIH) contracted with Institute of Medicine (IOM) to make recommendation regarding problem of chronic pain.
- 2011 IOM report recommendations included:
  - Chronic pain is a biopsychosocial condition that often requires integrated, multimodal, and interdisciplinary treatment, all components of which should be evidence based.
  - Every effort should be made to prevent illnesses and injuries that lead to pain, the progression of acute pain to a chronic condition, and the development of high-impact chronic pain.

National Pain Strategy

- Visions of the NPS include:
  - People experiencing pain would have timely access to patient-centered care that meets their biopsychosocial needs and takes into account individual preferences, risks, and social contexts, including dependence and addiction.
  - People with pain would have access to educational materials and learn effective approaches for pain self-management programs to prevent, cope with, and reduce pain and its disability.
  - Clinicians would take active measures to prevent the progression of acute to chronic pain and its associated disabilities.
  - Clinicians would undertake comprehensive assessments of patients with chronic pain, leading to an integrated, patient-centered plan of coordinated care, managed by an interdisciplinary team, when needed.

Chronic Pain-The Problem

Healthcare Costs

- Health economists have reported the annual cost of chronic pain in the US is as high as $635 billion a year, which is more than the yearly costs for cancer, heart disease and diabetes.
  - Gaskin and Richard, Journal of Pain, 2012
- Low back is the leading cause of disability in the US for patients under the age of 45 (3rd leading cause over 45)

Chronic Pain-The Problem

Healthcare Cost Drivers

- 5% of all patients account for 75% of costs
- Traditional medical interventions for treatment of chronic pain provide only 10%-30% reduction of pain
  - Leads to patient dissatisfaction (more on this later)
    - Demand for more medical treatment

Chronic Pain-The Problem

Need for early identification of patients who are likely to be the “5%”

- Biopsychosocial Assessment and Treatment
- Early interdisciplinary pain rehabilitation
- Avoid continuance of opioids after acute phase if possible

All of the above are also included as objectives of the National Pain Strategy.

Chronic Pain-The Problem

"The most helpful components for predicting persistent disabling low back pain were maladaptive pain coping behaviors, nonorganic signs, functional impairment, general health status, and presence of psychiatric comorbidities".

- Roger Chou, MD and Paul Shekelle, MD
- JAMA, April of 2010 (Medline search from 1966-2010)
- Meta-analysis looking at studies patients with low back pain less than 8 weeks duration, predicting recovery 1 year later.

Chronic Pain-The Problem

- Routine advanced imaging (e.g. MRI) is not associated with improved patient outcomes, and identifies many radiographic abnormalities that are poorly correlated with symptoms but could lead to additional, possible unnecessary interventions.
- Roger Chou, MD (Primary author for two Clinical Guidelines in Annals of Internal Medicine in 2007 on treatment of low back pain-quote is from

  American Pain Bulletin, 2008, Volume 18 (2), pg 3.)

Chronic Pain-The Problem

- "Recent studies document-over approximately a decade- a 529% increase in Medicare expenditures for epidural steriod injections; a 423% increase in expenditures for opiods for back pain; a 307% increase in the number of lumbar MRI's among Medicare beneficiaries; and a 220% increase in spinal fusion surgery rates. The limited studies available suggest that these increases have not been accompanied by population-level improvements in patient outcomes or disability rates"
  - Richard Deyo, MD et al. J. Am. Board Fam Med, 2009, 22(1) 62-68.

Chronic Pain-The Problem

Death

- Deaths from drug overdose are the leading cause of injury death in the US
- 51% were related to pharmaceuticals
  - 71% involved opioids
  - 31% involved benzodiazepines
- More Americans now die of overdose of prescription pain pills than of heroin or cocaine.

(CDC, 2015)

CDC Guideline for Prescribing Opioids for Chronic Pain (2016)

- Recommendations based on the following assessment from the research:
  - No evidence shows a long-term benefit of opioids in pain and function versus no opioids for chronic pain with outcomes examined at least 1 year later (most placebo-controlled randomized trials less than or equal to 6 weeks in duration)
  - Extensive evidence shows the possible harms of opioids (including opioid use disorder, overdose, and motor vehicle injury)
  - Extensive evidence suggest some benefits of nonpharmacologic and nonopioid pharmacologic treatments compared with long-term opioid therapy, with less harm.

Chronic Pain-The Problem

Human Suffering

- Significant increase in opioid use/abuse/addiction despite virtually no or minimal evidence for clinically meaningful long-term analgesia
- Increasing evidence for hyperalgesia induced by high dose, long-term use of opiate medications
  - Opioid Induced Hyperalgesia

Interdisciplinary Pain Rehabilitation

Pain Management- Primary Medical Model

- Medication Management
- Interventional procedures

Pain Rehabilitation- Primary Rehabilitation Model

- Interdisciplinary
- Biopsychosocial
- Integrated Treatment Plan

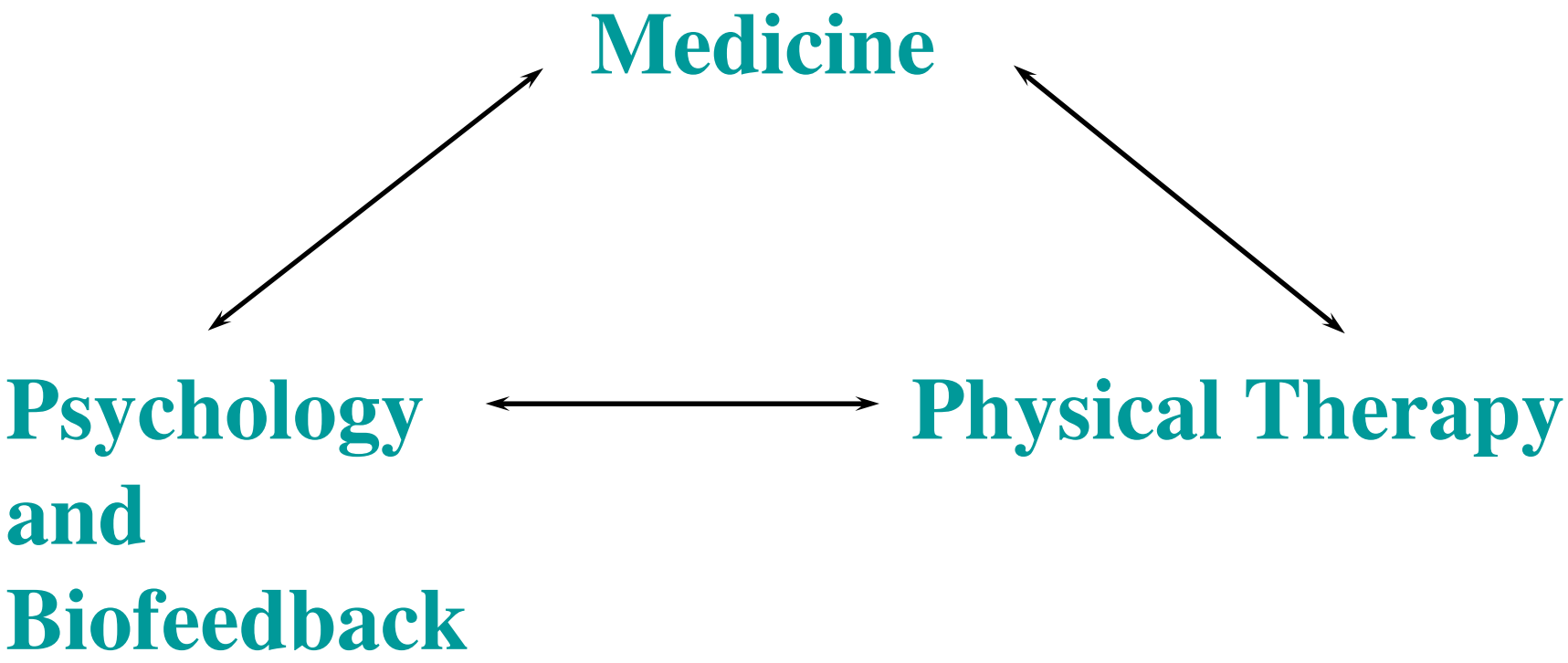
Pain Rehabilitation	Pain Management
• Patient is Active • Focus is on Function • Therapist is teacher • Patient must change dysfunctional response to pain • Interdisciplinary • Rehabilitation Model • Internal locus of control	• Patient is Passive • Focus on Symptoms • Physician as “healer” • Physician must keep trying to “cure or manage” the pain • Single discipline • Medical Model • External locus of control

Chronic Pain-The Solution

INTERDISCIPLINARY PAIN REHABILITATION

Empowering people to achieve their highest level of recovery and participation in life.

Interdisciplinary Pain Rehabilitation



Interdisciplinary Pain Rehabilitation

Physician

- **Inpatient – daily rounds**
- **Outpatient-**
  - **Once per week follow-up**
  - **Once per week team conference**

Nurse/Case Manger

- **Liaison with insurance**
- **Coordinator for schedule**
- **Liaison with physician**
- **Liaison with therapies**

Interdisciplinary Pain Rehabilitation

Psychology

- **Daily psychoeducation group (one hour)**
- **Psychological treatment (1-3 hours/week)**

Biofeedback

- **Twice daily group relaxation training (30 min each)**
- **Individual biofeedback training (1-3 hours/week)**

Interdisciplinary Pain Rehabilitation

Physical Therapy

- **Group exercises (3 hrs per day)**
  - **» Emphasis is on physical reactivation**
- **Individual therapy (three hours per week**
- **Strengthening**
- **Flexibility**
- **Cardiovascular**
- **Material handling/work conditioning**
- **Body mechanics training**

Interdisciplinary Pain Rehabilitation

Team Conference

- **Weekly**
- **All team members**
- **Patient attends**
- **External case manager invited**
- **Family invited**

Interdisciplinary Pain Rehabilitation

Program Admission Criteria (any of the following)

- Failure to benefit from surgery or traditional medical treatment
- Lack of benefit from traditional physical therapy
- Chronic pain syndrome and no surgery recommended
- Dysfunctional physical and emotional response to pain
- High level of opioid medication and minimal analgesic response
- Opioid induced hyperalgesia (opioids increase pain)
- Gradual deterioration of function over time
- Worsening of emotional distress despite treatment
- High levels of stress which are likely affecting chronic pain
- Psychosocial problems affecting pain, mood, and function

Interdisciplinary Pain Rehabilitation

Key Components to Outcomes:

- Intensity (6 hours per day-5 days per week)
- Duration (up to 5 weeks as needed)
- Physical Reactivation (3-4 hours per day)
  - Dosing is Essential (PT 2-3 hrs/week often is ineffective with the “5%”)
- Empowerment of the patient
  - Personal responsibility for pain control
- It’s rehabilitation not “management”

Interdisciplinary Pain Rehabilitation

- Burton et al. (1995) found that catastrophizing, as measured by the Coping Strategies Questionnaire , was the most powerful predictor of back pain chronicity 1 year after the acute onset: in fact it was almost seven times more important than the best of the clinical and historical variables for the acute back pain patients.

Interdisciplinary Pain Rehabilitation

- Fear-avoidance beliefs about physical activities and work are strongly related to disability and work loss in the previous year, more so than biomedical variables and characteristics of pain.
  - Waddell et al., 1993

Interdisciplinary Pain Rehabilitation

- Waddell concluded "…fear of pain and what we do about it is more disabling than the pain itself."
  - Treat Fear
    - Behaviorally (physical therapy)
    - Cognitively (psychology)
    - Educationally (physician)

Interdisciplinary Pain Rehabilitation

Inpatient (primarily for opiate weaning) or outpatient programs available

- Same program (services)
- Inpatients and outpatients are together in therapy
- 35% of patients were not using opioids on admission
- Morphine Equivalency Dosage (MED)
  - Inpatient Admission was 259 mg/day
  - Outpatient Admission was 80 mg/day

OUTCOMES DRIVE TREATMENT

Interdisciplinary Pain Rehabilitation:

Statistically superior to standard medical treatment or single discipline interventions for pain, mood, activity level, return to work, and reduced use of healthcare system.*

*Results were very stable over 95 week follow-up

Review of 65 studies (metaanalysis) with chronic pain patients

Flor, Fidrych, and Turk (1992)

OUTCOMES DRIVE TREATMENT

Interdisciplinary Pain Rehabilitation:

Patients required one third the number of surgical interventions and hospitalizations compared with patients treated by alternative medical and surgical care.

Meta-analysis review by Flor (1992)

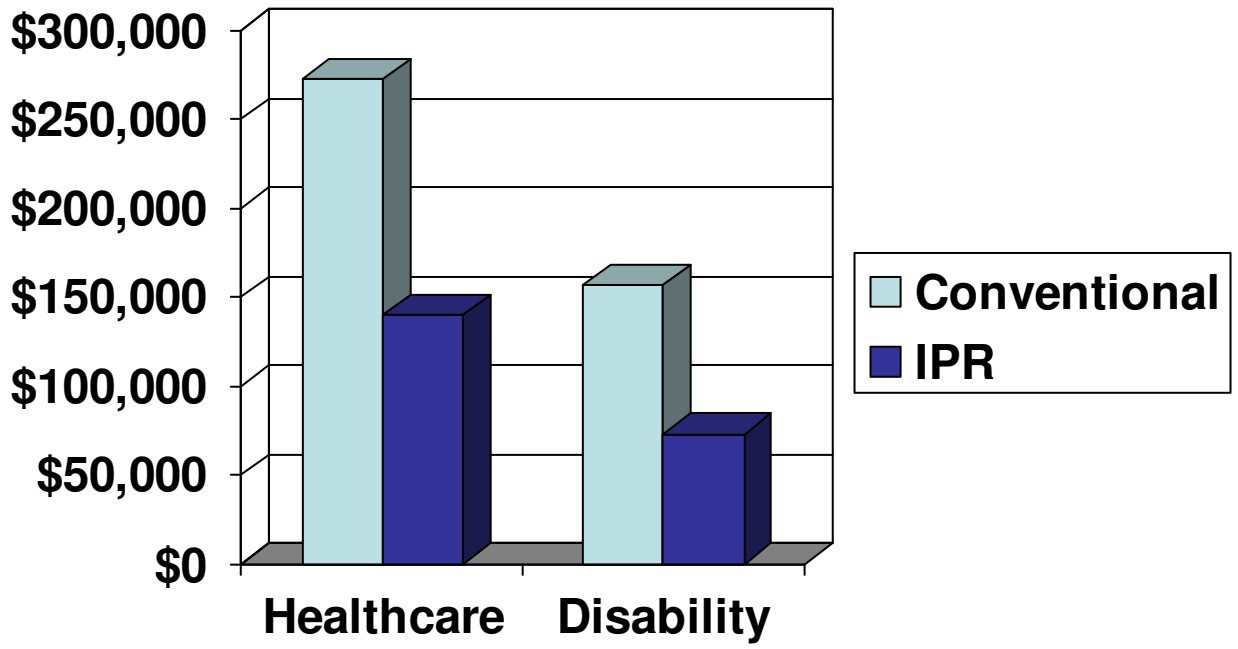
OUTCOMES DRIVE TREATMENT

Interdisciplinary Pain Rehabilitation:

Cost Saving for health care expenditures in years subsequent to the first year after treatment at **$8,772 per treated patient per year.**

Review article by Turk, 2002

Lifetime Healthcare and Disability Costs Following Interdisciplinary Pain Rehabilitation (IPR)



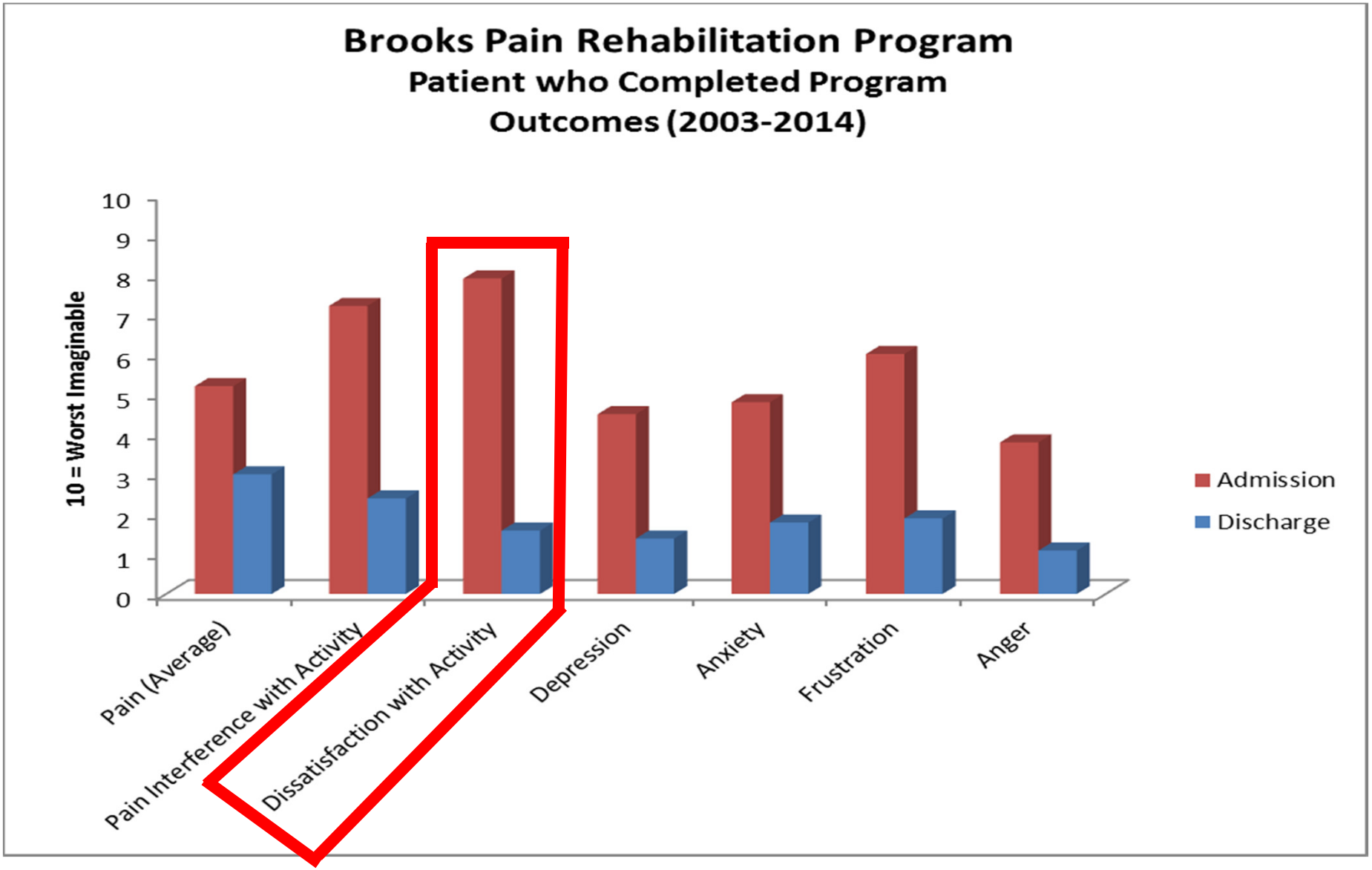
Gatchel and Okifuji, 2006

Brooks Pain Rehabilitation Program

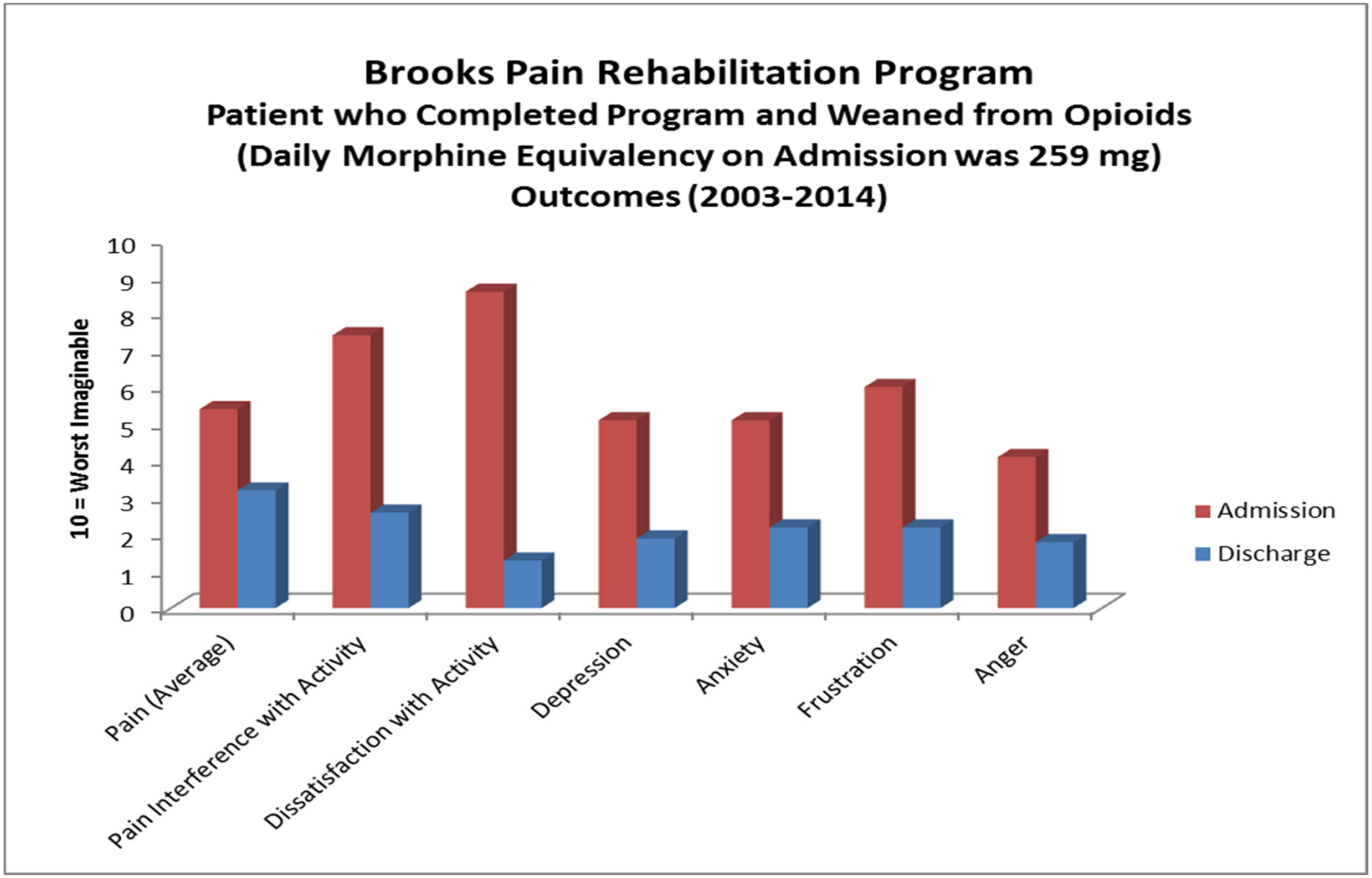
Accredited* in both inpatient and outpatient and inpatient interdisciplinary pain rehabilitation for 32 years.

*** Commission on the Accreditation of Rehabilitation Facilities (CARF)**

Brooks Pain Rehabilitation Program Outcomes



Brooks Pain Rehabilitation Program Outcomes



Interdisciplinary Pain Rehabilitation

Ultimate Desired Goal of Pain Rehabilitation

Generalization of Skills

Transferring the knowledge and skills learned in a controlled environment (therapy clinic) to their "real world", i.e. work and home environment.

Brooks Pain Rehabilitation Program Follow-Up

Follow-Up (Average of 1,3,6,12 and 24 Months)* Results:

Patient specific outcomes (average of 14 questions regarding pain, function, and mood):

- 36% Reported further improvement following discharge from the program
- 43% Maintained improvement following discharge
- 21% Declined in improvement following discharge

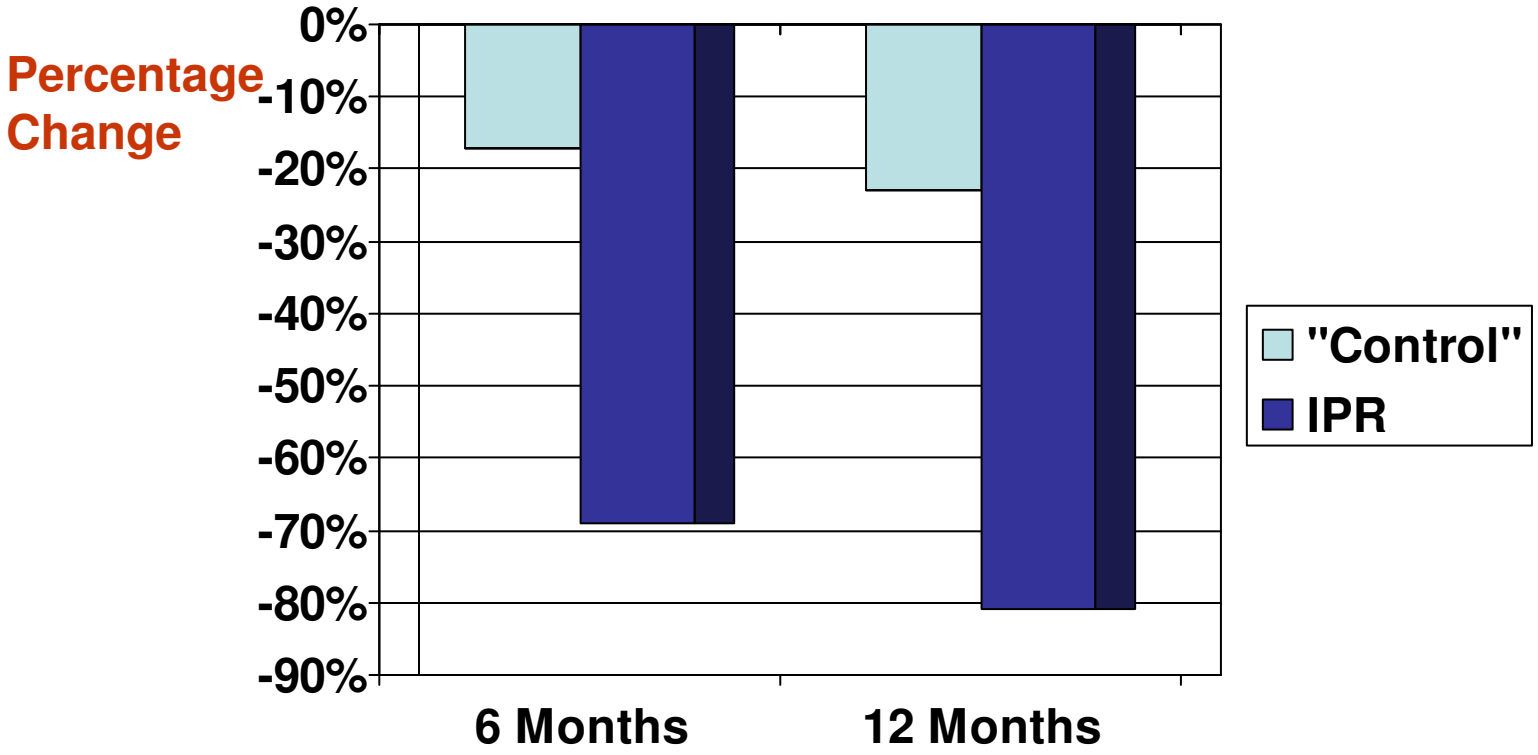
**Total number of follow surveys completed = 342*

Brooks Pain Rehabilitation Program Follow-Up (average of 1,3,6, 12 and 24 months)

- ✓ ***79% of patients did not receive any type of interventional procedure during follow-up period.***
- ✓ ***92% of patients did not receive any type of surgery (related to pain) during follow-up period.***
- ✓ ***Only 12% of patients weaned from opioids resumed medication in follow up.***

Brooks Interdisciplinary Pain Rehabilitation Healthcare Cost Outcomes

("Large Insurance" company's average (mean) monthly healthcare costs)
Pain Rehabilitation (IPR) compared to Pain Management (Medical only "control")
6 and 12 months after completion of the Pain Rehab Program
(Change from 6 months before program-"baseline")



IPR- Interdisciplinary Pain Rehabilitation Program (Brooks) (n=61)
Control Group – conventional (medical) treatments for pain management (n=49)

Interdisciplinary Pain Rehabilitation

WIN-WIN-WIN SOLUTION

- Patient/family is much happier
  - Less pain, greater function, off opiates
- Insurance company is much happier
  - Significant reduction of costs
- Referring doctor is much happier