Implementing EBP: It's Time We Paid Attention to Measuring Clinical Performance

Anthony Delitto, PT, Ph.D, FAPTA
November 2, 2009
Philadelphia, PA
Pontiac Assembly Line
1970 Grand Prix
- I punch in on time
- I punch out on time
- I don’t punch my co-workers or my boss (affective domain)

- Union contracts
  - 5-8% raises regardless of performance

- Performance Assessment
While Detroit Slept: How Toyota Invaded the American Car Market

- **Toyota’s success**
  - Cost advantage was the result of its innovative Toyota Production System (TPS).
  - Detroit carmakers were unwilling to adapt new manufacturing techniques and therefore lost tremendous market share
    - Arrogance
    - Lack of team-approach
      - Union versus Management
**Operational Excellence** is a philosophy of leadership, teamwork and problem solving resulting in continuous improvement throughout the organization by focusing on the needs of the customer, empowering employees, and optimizing existing activities in the process.

Toyota has turned operational excellence into a strategic weapon. This operational excellence is based in part on tools and quality improvement methods made famous by Toyota in the manufacturing world.
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Toyota has turned operational excellence into a strategic weapon. This operational excellence is based in part on tools and quality improvement methods made famous by Toyota in the manufacturing world.
Operational Excellence

- The continuous improvement is not only about improving HR quality, but also it is about the processes and standards improvement.
- Values lie within Safety, Quality, Productivity, Human Development, Cost, and Implementation.
Operational Excellence: Basic Tenet

- You can not improve if you do not measure
Managing LBP in the Clinic

Subgrouping Patients With Low Back Pain: Evolution of a Classification Approach to Physical Therapy

JULIE M. FRITZ, PT, PhD, ATC1 • JOSHUA A. CLELAND, PT, PhD, OCS, FAAOMPT2 • JOHN D. CHILDS, PT, PhD, MBA, OCS, FAAOMPT3

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### TABLE 2

**INTRODUCTION PROCEDURES ORIGINALLY PROPOSED FOR EACH CLASSIFICATION AND REVISED INTERVENTIONS BASED ON UPDATED EVIDENCE**

<table>
<thead>
<tr>
<th>Classification</th>
<th>Original Intervention Procedures</th>
<th>Updated Intervention Procedures</th>
</tr>
</thead>
</table>
| Manipulation   | • Manipulation or mobilization techniques targeted to the sacroiliac or lumbar region  
                 • Active ROM exercises | • Manipulation of the lumbopelvic region  
                 • Active ROM exercises |
| Stabilization  | • Trunk strengthening and stabilization exercises  
                 • Advice to avoid extreme movements and positions  
                 • Bracing for more severe cases | • Promoting isolated contraction and cocontraction of the deep stabilizing muscles (multifidus, transversus abdominis)  
                 • Strengthening of lagspinal stabilizing muscles (rectus spinae, oblique abdominals) |
| Specific exercise |                                    |                                 |
| Extension      | • End-range extension exercises  
                 • Avoidance of flexion activities | • End-range extension exercises  
                 • Mobilization to promote extension  
                 • Avoidance of flexion activities |
| Flexion        | • End-range flexion exercises  
                 • Mechanical traction performed in flexion  
                 • Avoidance of extension activities | • Mobilization or manipulation of the spine and/or lower extremities  
                 • Exercise to address impairments of strength or flexibility  
                 • Body weight-supported treadmill ambulation |
| Lateral shift  | • Exercises to correct lateral shift  
                 • Mechanical or autotraction | • Exercises to correct lateral shift  
                 • Mechanical or autotraction |
| Traction       | • Mechanical or autotraction | • Mechanical or autotraction |

*Abbreviation: ROM, range of motion.*
FIGURE 1. Oswestry disability scores over time for patients with low back pain who were positive (+rule) or negative (−rule) on the manipulation classification clinical prediction rule (CPR), and who received exercise with or without manipulation. The group receiving manipulation that was positive on the CPR experienced significantly more change than the other 3 groups. Adapted with permission from Childs et al.29

TABLE 3

<table>
<thead>
<tr>
<th>Examination</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prone instability test&lt;sup&gt;66&lt;/sup&gt;</td>
<td>The patient lies prone with the body on an examining table and legs over the edge with feet resting on the floor. While the patient rests in this position, the therapist applies posterior-to-anterior pressure to the lumbar spine. Any provocation of pain is reported. Then the patient lifting the legs off the floor and posterior compression is applied again to the lumbar spine, if pain is present in the resting position but subsides in the second position, the test is positive.</td>
</tr>
<tr>
<td>Posterior pelvic pain provocation (P4 test)&lt;sup&gt;66&lt;/sup&gt;</td>
<td>The patient is supine. The therapist passively flexes the patient’s hip to 90° and applies a posteriorly directed force through the longitudinal axis of the femur. The test is positive if the patient reports a deep pain in the gluteal area during the test.</td>
</tr>
<tr>
<td>Active straight-leg raise test&lt;sup&gt;66&lt;/sup&gt;</td>
<td>The patient is supine with straight legs and feet 20 cm apart. The patient is instructed to lift the legs one after the other approximately 20 cm above the table without bending the knee. The patient is asked to score the difficulty of the task on a 6-point scale (0, no difficulty at all; 1, minimally difficult; 2, somewhat difficult; 3, fairly difficult; 4, very difficult; 5, unable to do). Any score greater than 0 is a positive test.</td>
</tr>
<tr>
<td>Provocation of the long dorsal sacroiliac ligament&lt;sup&gt;66&lt;/sup&gt;</td>
<td>The patient is supine. The therapist palpates the long dorsal sacroiliac ligament bilaterally. A positive test occurs if at least 1 side is painful, and the pain persists at least 5 seconds after the removal of the therapist’s hand.</td>
</tr>
<tr>
<td>Provocation of the pubic symphysis with palpation&lt;sup&gt;66&lt;/sup&gt;</td>
<td>With the patient supine the entire front side of the pubic symphysis is palpated gently. If the palpation causes pain that persists more than 5 seconds after the removal of the therapist’s hand, it is recorded as positive.</td>
</tr>
<tr>
<td>Modified Trendelenburg test&lt;sup&gt;66&lt;/sup&gt;</td>
<td>The therapist is behind the standing patient. The patient is asked to stand on one foot while flexing the opposite knee and hip to 90°. The test is positive if the hip descends on the flexed side.</td>
</tr>
</tbody>
</table>
FIGURE 2. Classification decision-making algorithm. Abbreviations: FABQ, Fear-Avoidance Beliefs Questionnaire; FABQPA, FABQ Physical Activity Subscale; FABQW, FABQ Work Subscale; LBP, low back pain; ROM, range of motion; SLR, straight-leg raise. Adapted with permission from Fritz et al.43
<table>
<thead>
<tr>
<th>Classification</th>
<th>Updated Classification Criteria</th>
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</thead>
</table>
| Manipulation   | • No symptoms distal to the knee  
• Recent onset of symptoms (<16 d)  
• Low FABQW score (<19)  
• Hypomobility of the lumbar spine  
• Hip internal rotation ROM (>35° for at least 1 hip) |
| Stabilization  | • Younger age (<40 y)  
• Greater general flexibility (postpartum, average SLR ROM >91°)  
• “Instability catch” or aberrant movements during lumbar flexion/extension ROM  
• Positive findings for the prone instability test  
• For patients who are postpartum:  
  • Positive posterior pelvic pain provocation (P4), and ASLR and modified Trendelenburg tests  
  • Pain provocation with palpation of the long dorsal sacroiliac ligament or pubic symphysis |
| Specific exercise |  
| Extension       | • Symptoms distal to the buttock  
• Symptoms centralize with lumbar extension  
• Symptoms peripheralize with lumbar flexion  
• Directional preference for extension |
| Flexion         | • Older age (>50 y)  
• Directional preference for flexion  
• Imaging evidence of lumbar spinal stenosis |
| Lateral shift   | • Visible frontal plane deviation of the shoulders relative to the pelvis  
• Directional preference for lateral translation movements of the pelvis |
| Traction        | • Signs and symptoms of nerve root compression  
• No movements centralize symptoms |

**Updated Intervention Procedures**

- Manipulation of the lumbopelvic region
- Active ROM exercises
- Promoting isolated contraction and cocontraction of the deep stabilizing muscles (multifidus, transversus abdominus)
- Strengthening of large spinal stabilizing muscles (erector spinae, oblique abdominals)
- End-range extension exercises
- Mobilization to promote extension
- Avoidance of flexion activities
- Mobilization or manipulation of the spine and/or lower extremities
- Exercise to address impairments of strength or flexibility
- Body weight-supported treadmill ambulation
- Exercises to correct lateral shift
- Mechanical or autotractio

*Abbreviations: ASLnaire-Work Subscale; LBP, low back pain; ROM, range of motion; SLR, straight-leg ra*
Now we must return to the clinic

Knowledge  →  Attitude

Behavior Change  →  Clinical Performance

Better Patient Outcome
How do we measure performance?

- Clinical Performance Instruments
  - Qualitative, at best
- Chart audits
  - Perhaps the greatest waste of time in clinical environments
Performance Instruments

- APTA CPI
- Pitt Instrument (Clinical Internship Evaluation Tool)
Present Clinical Performance

Instruments

- Good tools, but **insufficient** for accurate and comprehensive measurement of clinical performance.
- Consider the recency of these instruments
  - 2007 Pitt CIET
  - 2004 APTA CPI
- What were we doing before that???
Chart audits

- How well you document versus how well you practice
Good documentation; Chart Audits and “QI” (as we know it today)

- Promote measurable practice?
- Standardize tests, measures, outcomes?
- Promote reliable and EBP process of care approaches?
- Develop exceptional practitioners?
- Promote learning and relentless reflection?
Back to performance: Why measure it?

- We cannot assess quality unless we measure it.
- Long overdue
  - Just because we have gotten away with murder is no excuse to keep committing murder.
Target

Personal
- Individual PT
- Environment

Setting
- Multiple PTs
- Similar environments

System
- One large clinic
- Multiple Settings
- Partners
Target (for today, at least)

- **Personal**
  - Individual PT
  - Environment
- **Setting**
  - Multiple PTs
  - Similar environments
- **System**
  - One large clinic
  - Multiple Settings
  - Partners
**Our approach**

- **Personal**
  - Individual PT
  - Environment

- **Setting**
  - Multiple PTs
  - Similar environments

- **System**
  - One large clinic
  - Multiple Settings
  - Partners
See why more and more people are choosing UPMC Health Plan

<table>
<thead>
<tr>
<th>Total Operating Revenues</th>
<th>$7.1 billion in fiscal year 2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Assets</td>
<td>$7.8 billion in fiscal year 2008</td>
</tr>
<tr>
<td>UPMC Provider Services Division</td>
<td>20 hospitals with over 4,200 licensed beds</td>
</tr>
<tr>
<td></td>
<td>400 clinical locations in western Pennsylvania</td>
</tr>
<tr>
<td></td>
<td>Nearly 5,000 affiliated physicians, including 2,700 employed by UPMC</td>
</tr>
<tr>
<td></td>
<td>More than 40 UPMC Cancer Centers with 180 affiliated oncologists</td>
</tr>
<tr>
<td></td>
<td>More than 200 psychiatrists and psychologists provide Behavioral Health services at five hospitals and more than 50 outpatient and ambulatory locations</td>
</tr>
<tr>
<td></td>
<td>16 retirement and long-term care facilities, assisting over 2,200 senior residents</td>
</tr>
<tr>
<td></td>
<td>More than 50 hospital and outpatient rehabilitation facilities</td>
</tr>
<tr>
<td>UPMC Insurance Services Division</td>
<td>1.3 million members covered by UPMC Health Plan products</td>
</tr>
</tbody>
</table>
Low Back Pain

- $6.2 Million on 937 cases
- 3rd largest “cost bucket” behind neoplasms and cardiopulmonary
Where is the money spent?

- Unnecessary imaging
- Pharmacology
- Unnecessary Procedures
  - e.g., epidurals without radicular signs
- Repeated visits to “rehab providers”
  - Majority chiropractors
We overestimate spontaneous recovery.
Exclusionary Diagnosis

If Exclusionary Diagnosis Negative: Yes

NO

Treat symptomatically with recommended pharmacology
Consider work restrictions/workman’s compensation
**Immediate referral to Physical Therapy (refer to text E)**
**Make follow up appointment for 2 weeks**

Physical Therapy (refer to text F)
Goal: 50% Reduction of symptoms in 2 weeks. Report sent to PCP with patient for 2 week evaluation and follow-up.

Continue PT 4-6 weeks. Return to regular activity with preventive exercise program.

Response to Physical Therapy (refer to text E)

Return to PCP
Repeat H&P Diagnostics
What is the opportunity for our department?

- Development
  - EBP education
  - Education & Training

- Implement
  - Develop process of care
  - Measurable
  - Surveillance
  - Measurement of effect
Determinants of Clinical Performance

- **CLINICAL COMPETENCE**: Do you have the knowledge and skills required to do it correctly?
- **MOTIVATION**: Do you want to do it correctly?
- **BARRIERS**: Will circumstances permit you to do it correctly?

**CLINICAL PERFORMANCE**

Are you doing it correctly now?
How do we evaluate performance?
You cannot improve what you do not measure
LOW BACK PAIN FORM

INITIAL ONLY

Therapist Name

Name: 
Patient ID:  
Date (Initial): 
Age: 

Gender: 
- Male
- Female

HISTORY (Initial Only)

Location:
- LBP
- LBP and buttock/thigh symptoms (not distal to knee)
- LBP and leg symptoms distal to knee

Post Surgical:
- Yes
- No

Duration:
- ≤ 15 Days
- > 15 Days

FABQ (Work)
- ≤ 19
- 20-28
- 29-32
- ≥ 33

PHYSICAL EXAM (Initial & Weekly)

Avg SLR
- ≥ 91
- ≤ 91

Prone Instability Test
- Positive
- Negative

Directional Preference
- Extension
- Flexion
- No Directional Preference

Mobility Testing
- Hypo
- Normal
- Hyper

Aberrant Movements
- Yes
- No

Pain (worst)

Flexion ROM

Oswestry

TREATMENT CLASSIFICATION (Initial & Weekly)

Stage I (check one)
- Mobilization (non thrust)
- Stabilization
- Flexion Directional Preference
- Extension Directional Preference

Stage II (Check all that apply)
- FABQ approach
- General conditioning

FABQ Status (check one)
- Negative (<29)
- "At Risk" (30-52)
- Positive (≥53)

NOTE: You must check
1. One Stage I category or one or more stage II categories
2. One FABQ status (initial only, weekly optional)

INTERVENTIONS (Initial & Weekly)

- Patient education/instruction
- Mobilization Grade V
- NMES (Strengthening)
- Flexion exercises
- Soft tissue massage
- Other
- Extension exercises
- NMES (Pain Control)
- Flexibility exercises
- Heat modalities
- Stabilization exercises
- Cold modalities
- General conditioning exercises
- Traction—mechanical
- Traction—automatraction
- Functional training
- De-Weighting
- Mobilization Grade I-IV
- Craniosacral therapy
- Myofascial release
- Graded Exercise Approach
- FABQ —
What is included?

- Process data by which you can answer
  - “How well do I adhere to a practice standard that I prospectively set?”
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- Mobilization to promote extension  
- Avoidance of flexion activities  
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- Exercise to address impairments of strength or flexibility  
- Body weight-supported treadmill ambulation  
- Exercises to correct lateral shift  
- Mechanical or autotraction

**Abbreviations:** ASLnaire-Work Subscale; LBP, low back pain; ROM, range of motion; SLR, straight-leg raise
Minimal data set

LOW BACK PAIN FORM

INITIAL ONLY

Therapist Name

Name:  
Gender:  Male  Female
Patient ID:  
Age:  
Date (Initial):  

HISTORY (Initial Only)

Location:
- LBP and buttock/thigh symptoms (not distal to knee)
- LBP and leg symptoms distal to knee

Post Surgical Duration:
- Yes  0 - 15 Days
- No  > 15 Days

PHYSICAL EXAM (Initial & Weekly)

Avg SLR  Positive
- ≥ 91
- < 91  Negative

Prox Instability Test
- FABQ Status (check one)

Directional Preference
- Extension
- Flexion
- No Directional Preference

Mobilization Grade
- FABQ Status (check one)
- "At Risk" (<29)
- Positive (>32)

Aberrant Movements
- Pain (worse)
- Flexion ROM
- Oswestry

TREATMENT CLASSIFICATION (Initial & Weekly)

Stage I (check one)
- Mobilization (non thrust)
- Mobilization Grade V (thrust)

Stage II (Check all that apply)
- FABQ approach
- General conditioning

NOTE: You must check
1. One Stage I category or one or more stage II categories and
2. One FABQ status (initial only, weekly optional)

INTERVENTIONS (Initial & Weekly)

- Patient education/instruction
- Mobilization Grade V
- NMES (Strengthening)
- Flexion exercises
- Soft tissue massage
- Extension exercises
- NMES (Pain Control)
- Flexibility exercises
- Heat modalities
- Stabilization exercises
- Cold modalities
- General conditioning exercises
- Traction—mechanical
- Aerobic exercise
- Traction—autotraction
- Functional training
- De-Weighting
- Mobilization Grade I-IV
- Craniosacral therapy
- Myofascial release
- Graded Exercise Approach (FABQ+1)
## Minimal data set

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### LOW BACK PAIN FORM

**INITIAL ONLY**

- **Therapist Name**: [Enter Name]
- **Gender**: [ ] Male [ ] Female
- **Patient ID**: [Enter ID]
- **Age**: [Enter Age]

### HISTORY (Initial Only)

- **Location**: [ ] LBP
  - [ ] Low back pain symptoms (not distal to knee)
  - [ ] LBP and leg symptoms distal to knee
- **Post Surgical**: [ ] Yes [ ] No
- **Duration**
  - [ ] ≤ 15 Days
  - [ ] > 15 Days

### PHYSICAL EXAM (Initial & Weekly)

- **Avg SLR**
  - [ ] ≥ 91 [ ] < 91
- **Prone Instability Test**
  - [ ] Positive [ ] Negative
- **Directional Preference**
  - [ ] Extension
  - [ ] No Directional Preference
- **Mobility Testing**
  - [ ] Hypo
  - [ ] Normal
  - [ ] Hyper
- **Aberrant Movements**
  - [ ] Yes
  - [ ] No

### TREATMENT CLASSIFICATION (Initial & Weekly)

- **Stage I (check one)**
  - [ ] Mobilization (non thrust)
  - [ ] Stabilization
  - [ ] Flexion Directional Preference
  - [ ] Extension Directional Preference
- **Stage II (Check all that apply)**
  - [ ] FABQ approach
  - [ ] Aerobic
  - [ ] General conditioning
- **FABQ Status (check one)**
  - [ ] Negative (<29)
  - [ ] “At Risk” (30-34)
  - [ ] Positive (≥35)

### NOTE: You must check

1. One Stage I category or one or more stage II categories
2. One FABQ status (initial only, weekly optional)

### INTERVENTIONS (Initial & Weekly)

- [ ] Patient education/instruction
- [ ] Mobilization Grade V
- [ ] NMES (Strengthening)
- [ ] Flexion exercises
- [ ] Soft tissue massage
- [ ] Other
- [ ] Extension exercises
- [ ] NMES (Pain Control)
- [ ] Flexibility exercises
- [ ] Heat modalities
- [ ] Stabilization exercises
- [ ] Cold modalities
- [ ] General conditioning exercises
- [ ] Traction—mechanical
- [ ] Traction—autotraction
- [ ] Functional training
- [ ] De-Weighting
- [ ] Mobilization Grade IV
- [ ] Craniosacral therapy
- [ ] Myofascial release
- [ ] Graded Exercise Approach
  - [ ] (FABQ =)
Minimal data set

LOW BACK PAIN FORM

<table>
<thead>
<tr>
<th>INITIAL ONLY</th>
<th>Therapist Name:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name:</td>
<td>Gender: Male</td>
</tr>
<tr>
<td>Patient ID:</td>
<td>Female</td>
</tr>
<tr>
<td>Date (Initial):</td>
<td>Age:</td>
</tr>
</tbody>
</table>

**HISTORY (Initial Only)**

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<th>Duration</th>
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<tbody>
<tr>
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<td>Low and buttock/thigh symptoms (not distal to knee)</td>
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</tr>
<tr>
<td>LBP and leg symptoms distal to knee</td>
<td>≥ 33</td>
</tr>
<tr>
<td>Post Surgical</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>&gt; 15 Days</td>
</tr>
<tr>
<td>No</td>
<td></td>
</tr>
</tbody>
</table>

**PHYSICAL EXAM (Initial & Weekly)**

<table>
<thead>
<tr>
<th>ATLE</th>
<th>Prov. Instability Test</th>
<th>Directional Preference</th>
</tr>
</thead>
<tbody>
<tr>
<td>≥ 91</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Negative</td>
<td></td>
<td>No Directional Preference</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Mobility Testing</th>
<th>Abnormal Movements</th>
<th>Pain (worst)</th>
<th>Flexion ROM</th>
<th>Oswestry</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hypo</td>
<td>Yes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Normal</td>
<td>No</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hyper</td>
<td></td>
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**TREATMENT CLASSIFICATION (Initial & Weekly)**

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<thead>
<tr>
<th>Stage I (check one)</th>
<th>FABQ Status (check one)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mobilization (non thrust)</td>
<td>Negative (&lt;29)</td>
</tr>
<tr>
<td>Mobilization (thrust)</td>
<td>Positive</td>
</tr>
<tr>
<td>Stabilization</td>
<td></td>
</tr>
<tr>
<td>Flexion Directional Preference</td>
<td></td>
</tr>
<tr>
<td>Extension Directional Preference</td>
<td></td>
</tr>
<tr>
<td>Traction</td>
<td></td>
</tr>
<tr>
<td>Stage II (Check all that apply)</td>
<td>One FABQ status (initial only, weekly optional)</td>
</tr>
<tr>
<td>FABQ approach</td>
<td></td>
</tr>
<tr>
<td>Aerobic</td>
<td></td>
</tr>
<tr>
<td>General conditioning</td>
<td></td>
</tr>
</tbody>
</table>

**INTERVENTIONS (Initial & Weekly)**

| Patient education instruction | Mobilization Grade V | NMES (Strengthening) |
| Flexion exercises             | Soft tissue massage  | Other                  |
| Extension exercises           | NMES (Pain Control)  |                        |
| Flexibility exercises         | Heat modalities      |                        |
| Mobilization exercises        | Cold modalities      |                        |
| General conditioning exercises| Traction—mechanical  |                        |
| Aerobic exercise              | Traction—autotraction|                        |
| Functional training           | De-Weighting         |                        |
| Mobilization Grade LIV        | Craniosacral therapy |                        |
| Myofacial release             | Exercise Approaches  |                        |
The Cost-Effectiveness of adherence to a Treatment-Based Classification (TBC) Approach compared to a non-adherent approach in the Management of Low-Back Pain (LBP) in the Outpatient Physical Therapy Setting

McGee JC, Landry MD, Childs JC, Fitzgerald GK, Wilson JW and Delitto A
**Overall Design**

- **ID All ICD-9 Codes related to LBP**
  - Common identifier in CRS and Insurance data bases

- **CRS Data Base**
  - Minimal Data Set
  - Collected at initial visit
  - Establish on/off protocol cohorts

- **UPMC Health Plan Data Base**
  - Track downstream costs
  - **ONE YEAR**
    - Overall costs
    - PT costs
    - Member burden
To obtain an inference regarding the cost-effectiveness of adherence versus non-adherence to a TBC approach in the physical therapy management of LBP in terms of direct health care costs and physical therapy costs.
Design

Part 1: Cost-Minimization

- All 42 UPMC CRS clinics in Southwestern, PA
- Conducted from a payer perspective examining charges from initial PT visit until April 15th, 2009 (standard 4% per year discounting rate applied to account for inflationary changes)
- Data extracted from CRS & UPMC clinical outcomes and financial databases
- Payer perspective
Design

- Part 2: Decision Analysis Model
  - To make inference regarding cost-effectiveness of adherence to TBC versus non-adherence
Methods

- **Inclusion Criteria**
  - All patients newly referred to physical therapy at CRS with any of the 27 LBI diagnostic codes
  - 18 - 65 years of age
  - No need for informed consent

- **Exclusion Criteria**
  - Presence of any medical “red flags”
    - (e.g., cancer, compression fracture, osteoporosis, infection, etc.)
  - Current pregnancy
  - Prior lumbar spine surgery
  - Non-English speaking
Measuring Performance: Importance of surveillance

- MDS Surveillance Program (Oct 24th through Nov 30th, 2007)

Only 17.85% complete through Oct 24th, 2007
Methods

- MDS Surveillance Program
  - Programming developed and validated to identify missing variables by therapist
  - Weekly reports sent to CRS Quality Assurance Director ("Big Brother")
    - Emails provided to clinicians and managers
    - If no $\Delta \times 4\text{wks}$, then f/u by CRS Director
      - Non-punitive internal incentive
    - Frequency of reporting weekly
      - $\downarrow$ every 2 weeks as of June 2008
Methods

- MDS Surveillance Program through Jan 2009

* 95.5% complete as of Jan 2nd, 2009
Results: TBC Adherence

- 63.1% of 363 Stab. Neg. Prediction Rule candidates treated off-protocol
- 82.2% of 135 Stab. Prediction Rule candidates treated on-protocol
Does it all matter?

- Develop evidence-based guidelines to standardize care
- Disseminate guidelines
- Develop quality indicators
- Track performance
- Track costs
- Link performance to costs and outcomes
Cost Savings

- **Total Direct Net Health Care Costs**
  - TBC On-Protocol $658,477.94 ($157.82 per member month)
  - TBC Off Protocol $941,897.55 ($235.69 per member month)
  - $283,419.61 Incremental Cost Savings

- **Total Direct Physical Therapy Costs**
  - TBC On-Protocol $182,746.85 ($43.80 per member month) 27.75% of total costs
  - TBC Off Protocol $211,054.57 ($52.81 per member month) 22.40% of total costs
  - $28,307.92 Incremental Cost Savings
Cost Savings

- **Member Burden “Out-of Pocket Costs”**
  - TBC On-Protocol  $90,779.56 ($21.76 per member month)
  - TBC Off Protocol  $118,987.48 ($29.77 per member month)
  - $ 28,207.92 Incremental Cost Savings

- **Physical Therapy Member Burden**
  - TBC On-Protocol  $43,377.70 ($10.40 per member month) 47.78% of total MB
  - TBC Off Protocol  $47,046.95 ($11.77 per member month) 39.54% of total MB
  - $ 3,669.25 Incremental Cost Savings
Room for Improvement?

- 63.1% of 363 Stab. Neg. Prediction Rule candidates treated off-protocol
- 82.2% of 135 Stab. Prediction Rule candidates treated on-protocol
Barriers or Motivation???

- Internal #1
  - Resistance to change behaviors
    - The belief that the expectation of adherence to a standard is somehow an infringement on their autonomy
    - “You’re taking away the art…”

- Internal #2
  - Development needs
    - Clearly the issue with MT/thrust procedures
    - PTs feel less confident
    - BUT
Reasons given for non-adherence: What would you do?

- I don’t want to do it differently
- I did not graduate from Pitt so I don’t use thrust on everyone that comes in the clinic
- My present way “works in my hands”
  - No mention of how it works with patients
- Your taking away the ART
System-wide

Personal
- Individual PT
- Environment

Setting
- Multiple PTs
- Similar environments

System
- One large clinic
- Multiple Settings
- Partners
Cost savings for whom?

- Payer and member
- What about Provider???
What is the incentive for the provider?

- Increases quality of care and decreases the cost of care
- It’s the right thing to do
- It saves money
Aligning finances to share cost savings

- Partner with payers to support QI initiative
- Incentivize member adherence to QI Initiative
  - Global co-pay
- Use QI Initiative to maintain and grow the revenue
  - Credentialing
  - Gold carding
  - Case payment

Increase Patient Volume