Integrating pain care

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Key steps in nociception

Transduction:
- Tissue Injury

Transmission:
- Dorsal Horn

Modulation:
- Descending Pathway
- Ascending Pathway

Perception:
- Spinal Cord
Chronic pain is acute pain gone bad

- Acute pain leads to peripheral and central changes in nociception
  - For the lucky, these changes resolve with healing
  - For the unlucky, these changes lead to life-long alterations in nerve function
Sensitization to pain

- **Sensitization**: Increased responsiveness of neurons to their normal input or recruitment of a response to normally subthreshold inputs.
- **Hyperalgesia**: Increased pain sensitivity.
- **Allodynia**: Pain in response to a non-nociceptive stimulus.

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What pain tells us is context specific
Who gets chronic pain?

- Each year 50 million people in the United States suffer from chronic pain

- Chronic pain can come from:
  - Ongoing tissue damage (OA)
  - A complication of:
    » Surgery
    » Infection
    » Injury
    » Radiation therapy or chemotherapy
Chronic pain and age

- The prevalence of chronic pain climbs steadily with advancing age at least until the seventh decade of life

  - Reported to be above 50% in older adults living in the community, and

  - Reported to be almost 80% in individuals living in residential aged care
Multifactorial nature of chronic pain

- Abnormal Pain States
- Ongoing Nociception
- Psychological State and Traits
- Family Issues
- Depression
- Anxiety PTSD
- Sleep disorders
Strategies for treating chronic pain
Where do patients go to receive pain care?

It has been reported that up to 25% of patients receiving chronic opioids receive them through the ED
Who provides chronic pain therapy?

- Over 76 million people in the U.S. suffer from chronic pain, and about 63% of them seek help from their primary care physician.

- Over 37% of adult visits to PCPs involved chronic pain complaints.

Primary care physicians have more patient visits for pain than are seen by all other specialties COMBINED.
Opioids for ACUTE pain

- A recent survey of patients on chronic opioids seems to indicate that opioids are often started for acute pain, then continued. **FOREVER.**
  
  - 54% of patients surveyed reported that their first opioid prescription was for pain after surgery or injury
  
  - Over 25% started opioids for 1 pain, then continued opioids for “a different pain.”

Callinan et. Al. Abstract presented at ASA October 2015
What do you and I bring to the game?

• Only 3% of medical schools required a course on pain management in 2001

• Medical students often have a negative perception of interactions with people with chronic pain

When asked what to do when confronted with a chronic pain patient, one medical student responded:

“RUN”
So, what do we have?

- Complex health condition with lots of moving parts
- Patients present at various stages of their condition to providers in multiple locations
- Providers’ skill set is highly variable
- Resources and care pathways are rather unclear
Models for payment are rapidly changing

### BPCI MODEL STRUCTURE

The Bundled Payments initiative has four models of care that link payments for services in an episode of care:

- The hospital and physician billing revenue cycle **DOES NOT CHANGE** under the program.

<table>
<thead>
<tr>
<th>Model</th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
<th>Model 4</th>
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</thead>
<tbody>
<tr>
<td><strong>Model and Feature</strong></td>
<td>Inpatient stay only</td>
<td>Inpatient stay plus post-discharge services</td>
<td>Post-discharge services</td>
<td>Inpatient stay only</td>
</tr>
<tr>
<td>Payment of bundle and target price</td>
<td>Discounted inpatient prospective payment system payment; no separate target price</td>
<td>Retrospective comparison of target and actual fee-for-service payments</td>
<td>Retrospective comparison of target price and actual fee-for-service payments</td>
<td>Prospectively set payment</td>
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<tr>
<td>Clinical conditions targeted</td>
<td>All MS-DRGs</td>
<td>Applicants to propose based on MS-DRG for Inpatient hospital stay</td>
<td>Applicants to propose based on MS-DRG for Inpatient hospital stay</td>
<td>Applicants to propose based on MS-DRG for Inpatient hospital stay</td>
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<tr>
<td>Expected discount provided to CMS</td>
<td>Proposed by applicant with minimum discounts at 0% in first six months to 2% in year three</td>
<td>Proposed by applicant with minimum discount of 3% for 30-89 days post-discharge; 2% for 90 days or longer episodes</td>
<td>Proposed by applicant</td>
<td>Proposed by applicant; subject to minimum discount of 3%; larger discount for MS-DRG in ACE demonstration</td>
</tr>
<tr>
<td>Payment from CMS to providers</td>
<td>Traditional fee-for-service payment to all providers and suppliers, subject to reconciliation with predetermined target price</td>
<td>Traditional fee-for-service payment to all providers and suppliers, subject to reconciliation with predetermined target price</td>
<td>Traditional fee-for-service payment to all providers and suppliers, subject to reconciliation with predetermined target price</td>
<td>Prospectively established bundled payment to admitting hospitals; hospitals distribute payments from bundled payment</td>
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</tbody>
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We need to do a better job, probably with fewer resources...
Disease teams expand the horizon

Disease teams cover the range of services

with representation from throughout the clinical spectrum

Orthopaedics
Rheumatology
Pain Medicine
PM&R
Radiology
Family Medicine

Degenerative Arthritis (eg. Osteoarthritis)
Inflammatory Arthritis (eg. Rheumatoid Arthritis, Psoriatic Arthritis)
Acute Trauma & Fracture Care (eg. Tibia/Fibula Fracture, Skull Fracture)
Sports & Performance Injury (eg. Meniscus Tear, Rotator Cuff Repair)
Systemic Rheumatic Diseases (eg. Vasculitis, Lupus, Scleroderma)
Bone Diseases (eg. Pathological Fracture, Paget’s Disease, Osteoporosis)
Chronic & Regional Pain (eg. Pain in Shoulder)
Osteoarthritis: Pathway through Health Services

**Desired Outcome/Function**
- Arthroscopy
- Arthroplasty
- Osteotomy
- Revision
- Second Line Treatment with increased acuity

**Severity of Disease**

**Diagnosis**
- Conditions
- Management

**Condition Management**
- Pharmacologic Treatment

**Pharmacologic Treatment**
- Injection(s)
- Infusion
- Aspiration
- Pain Medicine

**Injection(s)**
- Arthrocentesis
- Patient Education
- Physical Therapy
- Weight Loss
- Exercise

**Physical Therapy**
- Exercise
- Rehabilitation
- Imaging
- Skilled Nursing
- Home Care
- Imaging

**Rehabilitation**
- Physical Therapy
- Imaging

**Imaging**
- Routine Imaging
- Advanced Imaging

**Routine Imaging**
- Arthrocentesis

**Arthrocentesis**
- Pain Medicine

**Pain Medicine**
- Orthopaedics
- Radiology
- PM&R/GSPP
- Medicine
- Rheumatology

**Bundle**
- Functional Status, Outcome
- Maintenance

**Functional Status, Outcome**
- Maintenance

**Maintenance**
- Exercise
- Physical Therapy
**Coordination of location of care and providers**

<table>
<thead>
<tr>
<th>Surgery</th>
<th>Orthopaedics</th>
<th>PM&amp;R</th>
<th>Pain</th>
<th>Neurology</th>
<th>GSPP</th>
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<td>Neurosurgery</td>
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<td>PM&amp;R</td>
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<td>Neurology</td>
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<tr>
<td>HUP</td>
<td>PAH</td>
<td>PUMC</td>
<td>PCAM</td>
<td>HUP/PCAM</td>
<td>PCAM</td>
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<td>Chestnut Hill</td>
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<td>Valley Forge</td>
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<td>Woodbury</td>
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<td>Yardley</td>
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Integrated pain care
Interdisciplinary chronic pain care leads to better outcomes
Multidisciplinary vs. interdisciplinary

- Health Care in the United States is often highly fragmented
- Effective communication among treatment team members is critical
Barriers to integrated pain care

- Team member skill set
- Shared team vision
- Effective, established methods for communication
- "evidence-based" treatment options
- Ability to collect, document, and analyze outcomes data
Leadership, resources, timing
Integrating care: where to start

- Focus on the patient
- Effective communication
- Effective process for collaboration
- Effective process for co-management
- Focus on optimizing outcomes
Keys to Improving Patient (not always pain) Outcomes

- The development of a unified vision
- The institution of meaningful data collection and analysis
- The development and implementation of a process of care to improve outcomes
Mission

• To provide up to date, evidence-based, and individualized care for our patients through a comprehensive multidisciplinary approach to relieve pain, improve function and maximize quality of life.

  – Requires a highly organized intake and triage process engineered to filter patients to the most appropriate provider and course of treatment.

  – Seamless care coordination and appropriate escalation to more aggressive approaches.

  – Differentiation from competing providers through a patient centered marketing approach that emphasizes an enhanced patient experience.
Creating an integrated care team

Disease teams cover the range of services

*with representation from throughout the clinical spectrum*

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- Bone Diseases (e.g. Pathological Fracture, Paget’s Disease, Osteoporosis)
- Chronic & Regional Pain (e.g. Pain in Shoulder)
Practice guidelines alone do not improve practice.
Integrating pain care: key elements (chronic opioid therapy)

- Standardized process of care within both practices
  - Required collaboration with PCP
  - Medication agreements
  - Regular urine drug screen
  - Electronic outcomes monitoring
  - Process for use of chronic opioids, including response to ADRB
Collaborative agreement

- Goal: Shared responsibility for prescribing and monitoring, but patient active in care with both teams

- PCP may decline (27%) for many reasons
  - “I don’t prescribe opioids.”
  - PCP aware of contra-indication to COT
  - PCP under investigation for wrong doing

- Pain physician rarely will start COT absent an agreement
  - Assist with opioid taper following trauma or surgery
  - Acute radicular back pain
Opioid agreement and goals of therapy

- Electronic documentation of opioid agreement
- Standard process for documentation of use of COT, and by whom
- Documented goals of treatment that can then be tracked during therapy
- FUTURE: Internet-based patient education, including advanced resources for drug storage and disposal
Documentation of patient outcomes and acting on the results (including ADRB and CSDB)

- Tracking patient response to therapy compared to documented goals allows for data-driven decision making.

- Careful, diligent monitoring of UDS, CSDB, and ADRB with a standardized response allows for timely responses and may improve patient and provider safety.
Outcome management – Where do you start?

If you don’t measure it, you can’t manage it
Measuring outcomes in chronic opioid therapy

- **Pain Intensity**
  - Average, least and worst
  - Time period (within the last week)

- **Physical function**
  - 11-point categorical scale
  - CAT assessment going forward

- **Mood**
  - Depression (PHQ9)
  - Anxiety
  - PTSD

- **MED**
  - Calculated by provider
  - Automated calculation going forward

- **Goals**
  - Pain, function, mood
  - Monitoring over time
  - Document provider response
Penn pain outcome survey

- Survey completed via Internet at home, or in the office at the time of the visit
- PRO immediately available for review and use by provider
- PRO electronically imported into EHR
Electronic outcomes data capture
PRO and other data presentation allows for improved process of care
Tracking individual outcomes data over time

<table>
<thead>
<tr>
<th>Allergies: E. coli, Egg Or Chicken-derived Drugs, Penciclovir, Penicillins</th>
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</thead>
<tbody>
<tr>
<td>Reviewed on 9/28/2015: Mark as Reviewed</td>
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<tr>
<td>ZZZ,AAA (446107203) Sex: Female DOB: 2/10/1950 Age: 65</td>
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<table>
<thead>
<tr>
<th>Past Interventions</th>
<th>Pain relief since starting treatment</th>
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<tbody>
<tr>
<td></td>
<td>Pain relief since last visit</td>
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<tr>
<td></td>
<td>Global relief of pain</td>
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<td>+1</td>
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<td>+3</td>
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<th>MOOD</th>
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<table>
<thead>
<tr>
<th>Pain Interference (EOL)</th>
<th>Depression</th>
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<td>Anxiety</td>
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<td>SLEEP</td>
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<td>Sleep Quality</td>
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<td>Pain Interference- Sleep</td>
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<thead>
<tr>
<th>OSA</th>
<th>OSA Screening (refer for sleep study if 3 or more are checked)</th>
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<tr>
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<td>OSA Diagnosed</td>
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<td>Using CPAP / bi-level PAP</td>
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<tr>
<th>FUNCTION</th>
<th>Global Function Rating</th>
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<td>Pain Interference-Function</td>
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<td>Work / Disability Status</td>
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<td>Specific Limitations</td>
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<td>Opioid Monitoring</td>
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<td></td>
<td>Global Assessment of opioid efficacy</td>
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<td></td>
<td>Urine Drug Screen Results (RP)</td>
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<tr>
<td></td>
<td>Abnormal Urine Drug Screen</td>
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<td>Methadone Monitoring</td>
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<td>OTC</td>
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<td>Testosterone</td>
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<td>MED Calculation</td>
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Onset/Course: Chronic pain of LE's

Pt has history of Bilateral LE CRPS s/p MVC in 2000. Since then she has been on multiple therapies including opioids, antidepressants, physical therapy and psychotherapy. She says her pain is currently stable. She is willing to cut down on her opioids as she is planning on getting pregnant next year. Her mood has been ok, but is willing to start an antidepressant as she is not on any now. She has heard about methadone and is scared of its side effects. Pt is currently try to lose weight with a personal trainer and appears very motivated.

Chief Complaint: Burning Bilateral Leg Pain

PAIN:

0-10 Rating (0=No Pain, 10=Extreme Pain) of Intensity - Average Week (RP): 9
0-10 Rating (0=No Pain, 10=Extreme Pain) of Intensity - Worst/Week (RP): 10
0-10 Rating (0=No Pain, 10=Extreme Pain) of Intensity - Best/Week (RP): 6

MOOD:

Depression (RP): Yes
Anxiety (RP): Yes
Her mood has been ok, but is willing to start an antidepressant as she is not on any now.

SLEEP:
Pt has been able to sleep well on ambien and would like to continue it.

FUNCTION:
Able to continue her daily activities. Pt is currently try to lose weight with a personal trainer and appears very motivated.

RESULTS
Monitoring program and provider outcomes

<table>
<thead>
<tr>
<th>Chronic Opioid Therapy</th>
<th>TOTAL</th>
<th>Tuttleman</th>
<th>Perelman</th>
<th>PMUC</th>
<th>Valley Forge</th>
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<tbody>
<tr>
<td>Number receiving COT</td>
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<td>Process measures</td>
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<tr>
<td>Opioid agreement</td>
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<td>UDS last visit</td>
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<td>MED</td>
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<td>MED &gt; 100 mg / day</td>
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<td>Patient outcomes</td>
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<td>Pain Intensity (Avg WK)</td>
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<tr>
<td>Physical functioning</td>
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<tr>
<td>PHQ9</td>
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<tr>
<td>Goals of treatment</td>
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<td>Met</td>
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</table>
Establish a shared vision

- Focus on the patient
- Effective communication
- Effective process for collaboration
- Effective process for co-management
- Focus on optimizing outcomes

ACP: The patient-centered medical home neighbor. 2010