

# **Chronic Pain Management: Opiate Prescribing vs. Over-Prescribing**

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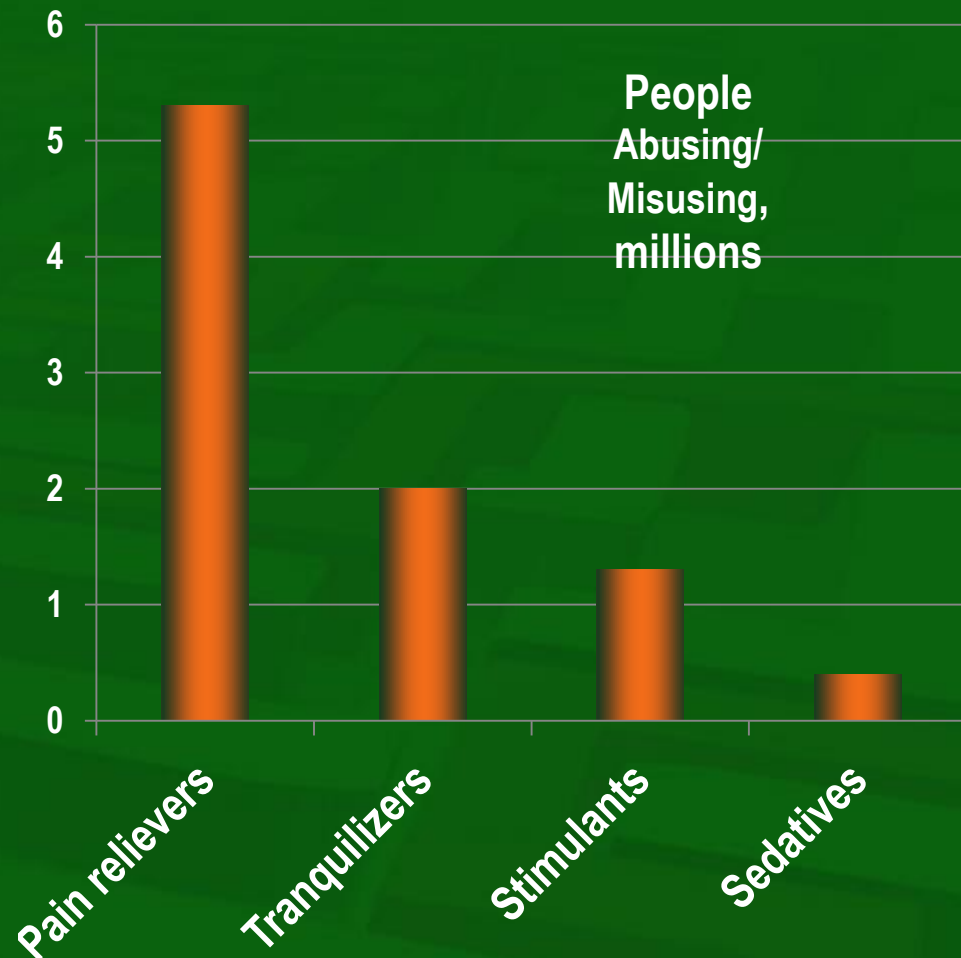
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# Why be Concerned about Opioids?

- 35 million Americans have used opioid analgesic for non-medical purpose
- 7 million Americans misuse or abuse prescription drugs each month
- Prescription drug abuse accounts for ~25%-30% of all drug abuse
- Pain and addiction are interrelated

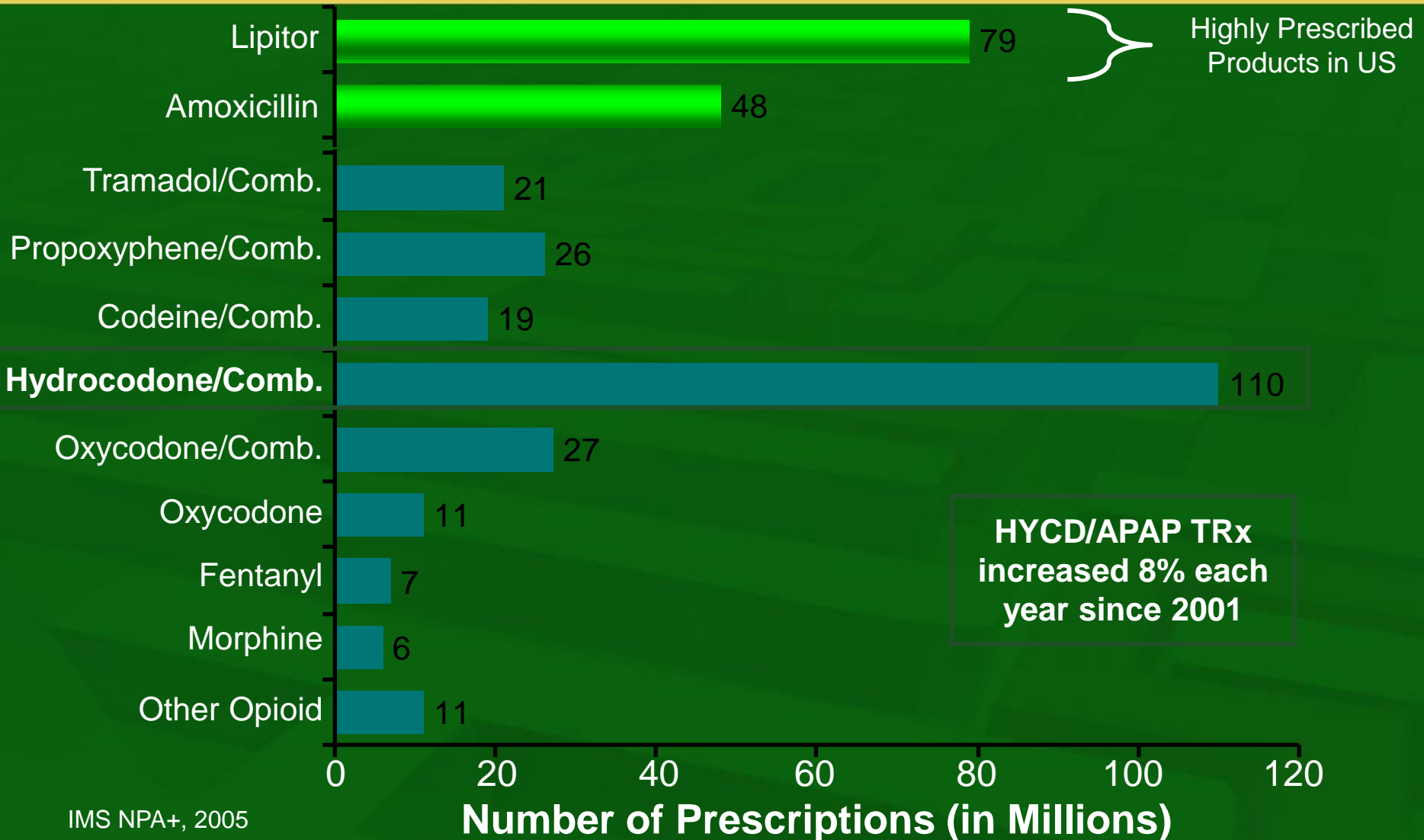


# Opioid Analgesia

## 1990s

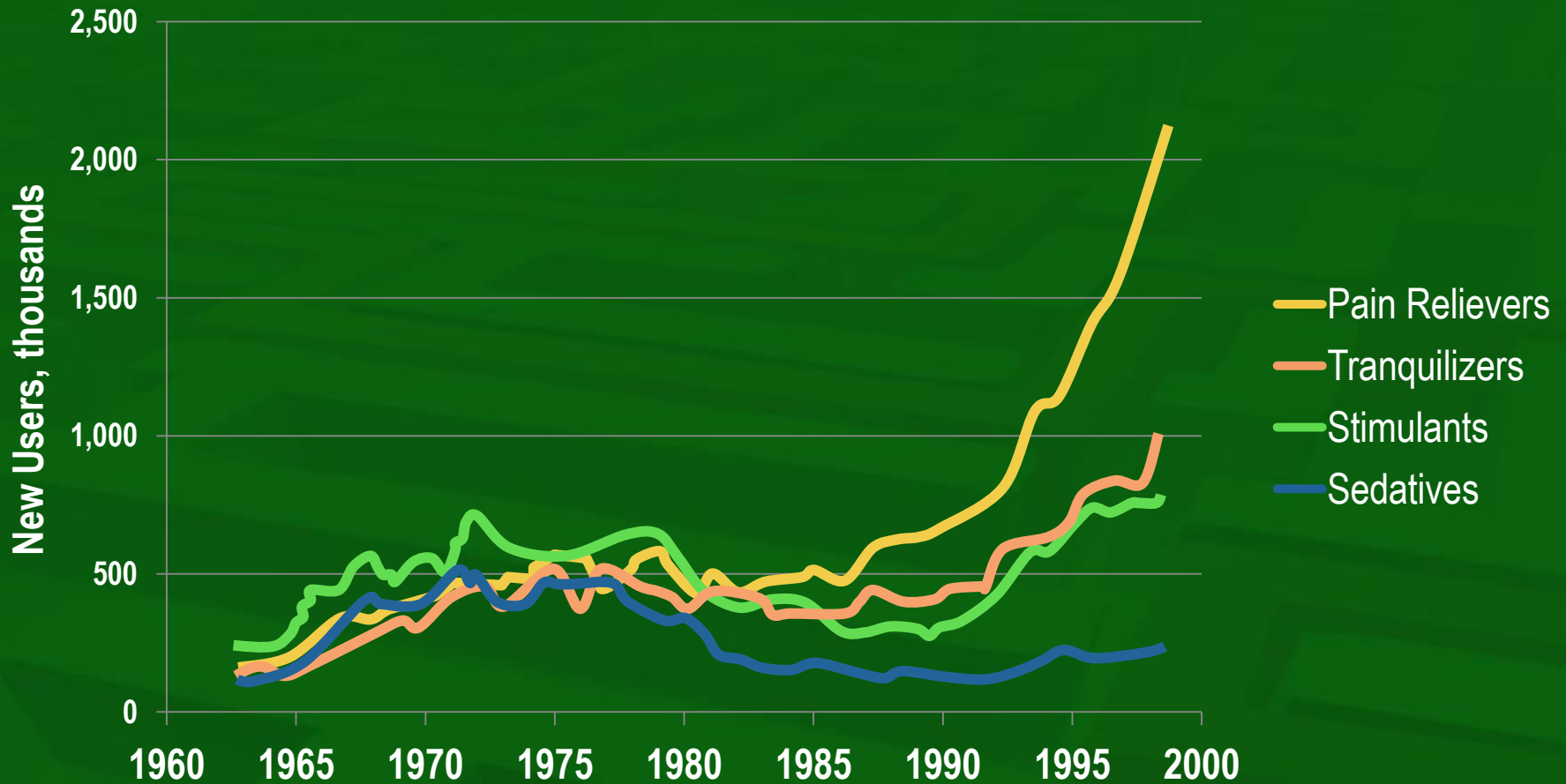
- Old teaching
  - All patients get addicted to narcotics
  - Side effects limit effectiveness
  - Save until pain is severe
    - Tolerance
  - Pain is not life-threatening
- New thoughts
  - Almost no one gets addicted to opioids
  - Side effects can be managed
  - Treat pain early
    - Tolerance is exaggerated
  - Pain kills

# Hydrocodone/APAP Most Prescribed Product in the United States



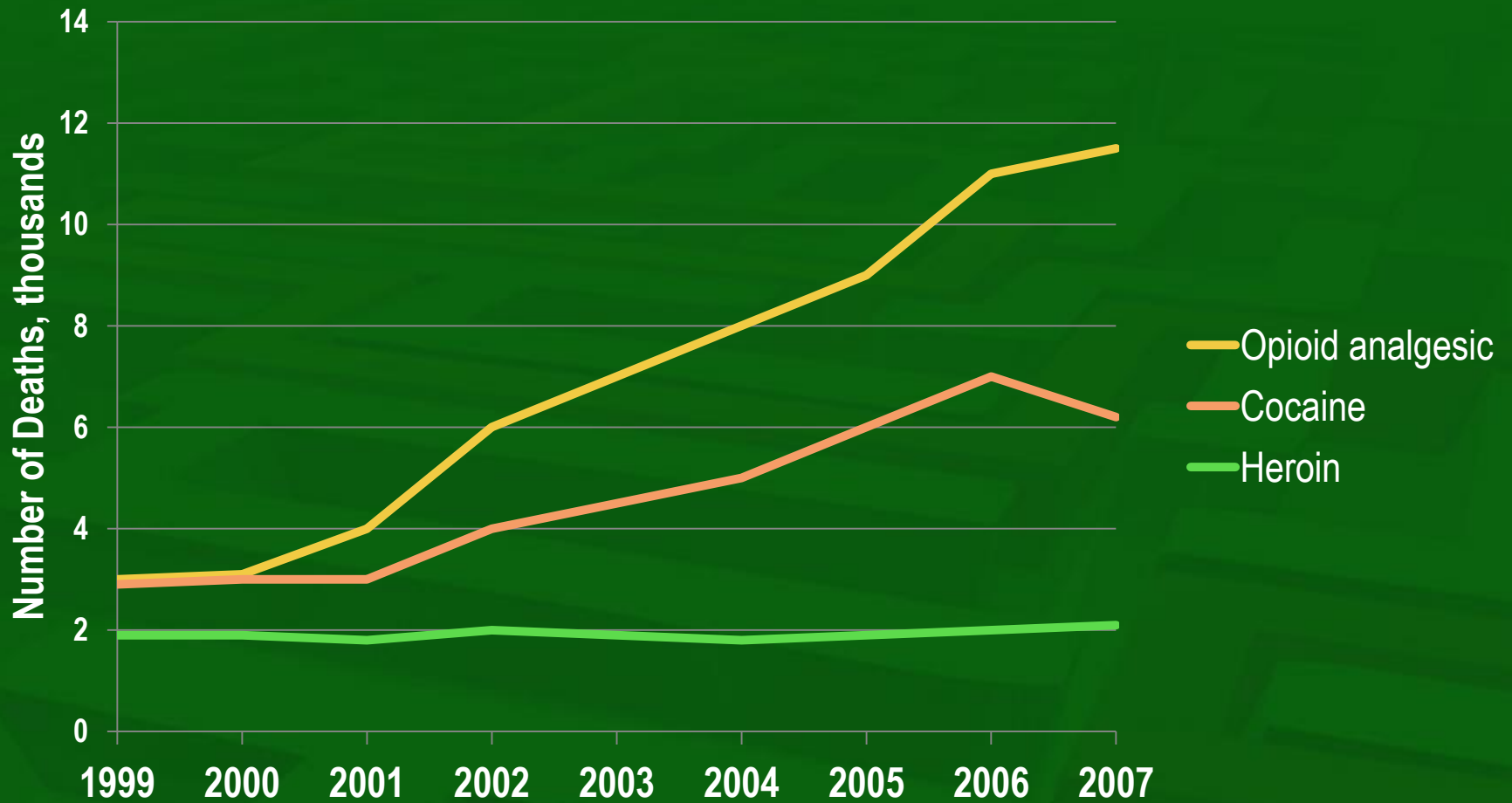
# Psychoactive Agents

## New Users, 1963-2000



# Deaths from Unintentional Overdose

## 1999-2007



# Opioid Analgesia

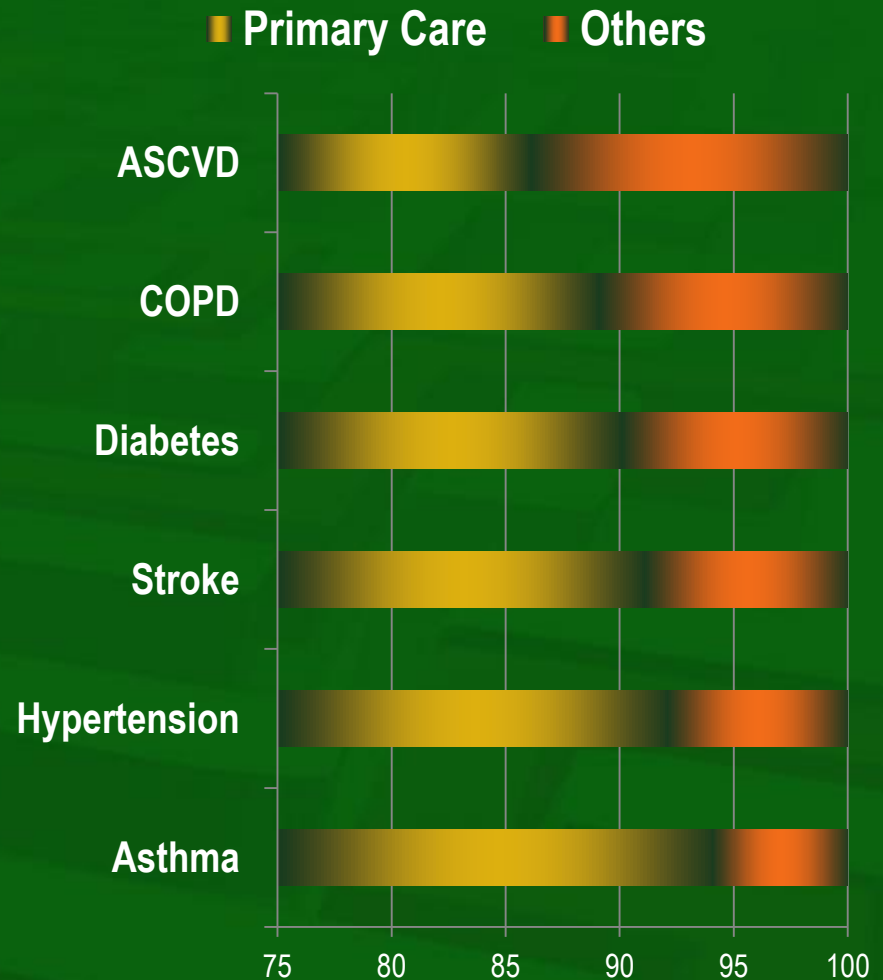
## 2000-2012

- Old teaching
  - All patients should be given an opioid trial
  - No ceiling effect for opioids
  - High pain level requires opioid as first-line agent
  - Even individuals with SUD or addiction will do well on opioid therapy
- New thoughts
  - In some patients, risks may be too high for opioids
  - As doses  $\uparrow$ , effects  $\downarrow$
  - Pain level alone does not dictate opioid use
  - Significant practice issues in monitoring patients on opioids

# Chronic Pain Management

## PCP Uniquely Positioned

- Only providers able to cope with large chronic pain population
- Multiple, repeated exposures to patient, family
  - Sees patients in crisis
  - Aware of coping mechanisms
  - Knows family members
- Familiar with chronic disease management model





# Introducing Jack

## Initial Presentation, History



- 52-year-old general contractor
  - Married, 3 children
- Presents to PCP with acute LBP that interferes with work, family life
  - Right lower back
  - Radiating down right leg to lateral foot
  - Intensity rated 6/10
  - Duration, 6 weeks
- History
  - Recurrent minor past injuries in same area
    - Typically resolved with OTCs
  - Anxiety, depression
    - Even in childhood
  - Experimented with alcohol, marijuana when younger
    - Helped anxiety but “I did not like that illegal stuff”
    - “Plus, my family got all messed up on that stuff”
  - Family history of depression

# Jack

## Initial Treatment



- Prescribed stretches, rest, ice, anti-inflammatory, muscle relaxant
- 7 days off work due to physically demanding job
  - No availability of modified duty
- Follow-up appointment scheduled for 1 week

# LBP

## Leading Cause of Job-Related Disability

- Most common reason for presentation to PCP
- Direct costs >\$26 billion in the United States (1998)
  - 149 million lost work days
  - 5% to 9% of workers' comp claims, but 65% to 85% of costs annually
- In cases of acute radiating lumbar pain, rule out “red flag” conditions
  - Cauda equina syndrome
  - Neoplasm
  - Infection
  - Fracture
- Only 4% of patients with acute lumbar pain, sciatica will have detectable lumbar disk herniation on radiologic examination

# Pain Assessment

## General Approaches

- Detailed history
  - Pain characteristics
  - Review of medical records
    - Prior diagnoses, therapies
    - Physical, psychological comorbidities
- Physical examination
  - Musculoskeletal
  - Neurologic
- Work-up, diagnostic studies
- Clinical considerations
  - Pain etiologies, characteristics
  - Effect on biopsychosocial domains including risk for addiction
- Challenges
  - Lack of a specific measurement tool that can prove presence or intensity of pain
  - Inaccurate patient descriptions
    - Degree of pain OR relief

Treatment based on initial assessment and regular reassessments that are comprehensive, individualized, documented

# Developing a Care Plan

- Working diagnosis
  - Pain etiology
  - Pain syndrome
  - Inferred pathophysiology
- Initial treatment
  - Individualized based on pain intensity, duration, disease, tolerance of AEs, risk for aberrant behavior
  - May be stepwise in nature
  - May involve multidisciplinary team
  - May include behavioral + nonpharmacologic + pharmacologic modalities
  - May include analgesics with different, complementary MOAs and agents to reduce other symptoms (sleep disturbance, fatigue)

# Nonpharmacologic Strategies In Pain Management

<b>Physical</b>	Bandages, corsets Topical analgesic cream Exercise Heat, cold Body mechanics Reactivation of deconditioning	Hydrotherapy Massage Physical devices Physical, occupational therapies Functional restoration ROM interventions
<b>Interventional</b>	Bracing Injection, radiation therapy Nerve blocks	Neurodestructive surgery Spinal cord stimulation TENS
<b>Psychological</b>	Attention control, distraction Biofeedback CBT Behavioral, operant interventions Desensitization EMDR	Family therapy Goal-setting and pacing Guided imagery Hypnosis Patient education Psychotherapy

# Pharmacologic Strategies In Pain Management



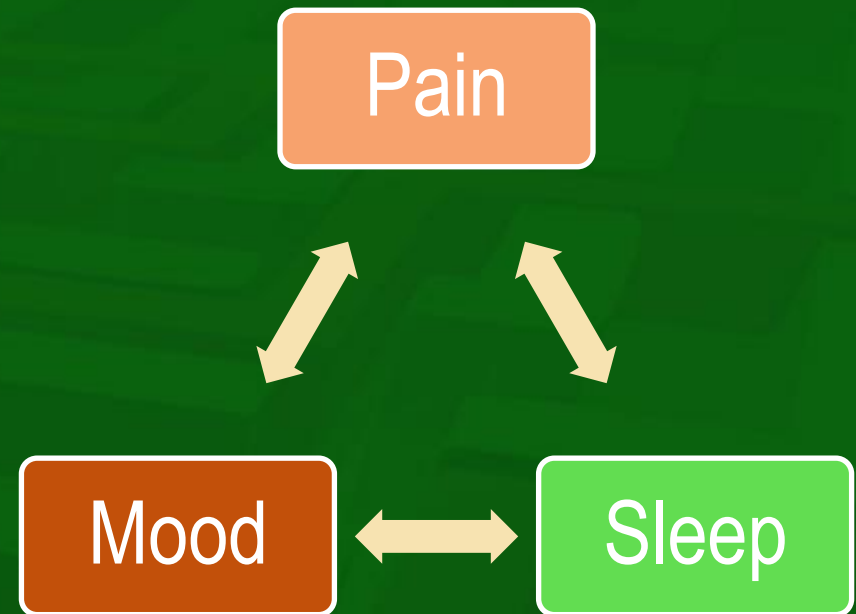
<b>NSAIDs</b>	Aspirin, ibuprofen, naproxin, flurbiprofen
<b>COX-2 Inhibitors</b>	Diclofenac, celecoxib, etoricoxib,
<b>Opiates</b>	Bupenorprhine, tentanyl, hydrocodone, hydromorphone, methadone, morphine, oxycodone, oxymorphone, tapentadol, tramadol
<b>Antidepressants</b>	Amitriptyline, duloxetine, milnacipran
<b>Anticonvulsants</b>	Carbamazepine, gabapentin, pregabalin
<b>Muscle Relaxers</b>	Cyclobenzoprine
<b>Topical agents</b>	Capcaicin, lidocaine

# Jack

## 1 Week later



- Pain not resolved
- New pain-related symptoms
  - Sleep disruption
  - Irritability
  - ↓ ability to participate in hobbies
- Treatment plan adjusted
  - More time off work (2 weeks)
  - Physical therapy





# Acute ≠ Chronic Pain

Acute Pain (Good)	Chronic Pain (Bad)
Recent onset Short duration	Lasts >3-6 mo Meets ≥1 of following <ul style="list-style-type: none"><li>• Persists ≥1 month beyond typical course of acute illness, normal healing</li><li>• Is part of a chronic pathologic process</li><li>• Recurs: days, weeks, months</li></ul>
Protective Indicates potential or actual injury	Maladaptive Indicates damage to/abnormal operation of peripheral/central nervous system <ul style="list-style-type: none"><li>• Dysregulation, sensitization</li><li>• Hyperalgesia: normally painful stimulus becomes more painful than usual</li><li>• Allodynia: nonpainful stimulus becomes painful</li></ul>

**Chronic pain: pain “uncoupled from a noxious stimulus or healing tissue”**

# Jack

## 3 Weeks Later



- Pain not resolved
- Related symptoms worsen
  - Sleeping <4 hours per night
  - ↑ irritability, anxiety
  - In danger of losing job due to time off
- PCP considers prescribing an opioid
  - Risk assessment
    - Administers ORT, Jack classified as low-risk
  - Opioid agreement
  - Prescribes hydrocodone/APAP

Be aware of all medications your patient receives for all conditions from all prescribers

# Assessment for Opioid Therapy and Initiation of Opioid Trial

- Personal, family history
  - Medical, psychological
  - Prior treatment, compliance
    - Including opioids
- Examination
- Risk assessment
  - Consider risks and benefits of long-term opioid therapy
    - Evidence, guidelines, AEs
  - Stratify patient according to risk level
- Documentation
- Medication selection, dosing
  - Start low, titrate ↑ in smallest possible increment
  - Increase dose until
    - Pain remits
    - Intolerable AEs persist
  - SA as initial therapy?
    - Shorter half-life
    - May have ↓ risk for unintentional overdose

# Individual, Interrelated Risk Factors For Opioid Abuse

- Active alcohol or substance abuse
- Personal or family history of substance abuse
- Legal, disability issues related to pain
- Younger age
- Male sex
- Previous DUI conviction
- Smoking
- Poor social support
- Adverse childhood events
- Preadolescent sexual abuse
- Psychiatric, psychological disorders

# Risk Assessment and Screening Clinician-Administered Tools

Tool	Items	Goal
<b>DIRE<sup>1</sup></b>	7	Assess whether long-term opioid therapy appropriate in patients with CNCP
<b>SISAP<sup>2</sup></b>	5	Predict probability of developing aberrant behavior during opioid therapy for CNCP by inquiring about alcohol, marijuana, cigarette use
<b>POAC<sup>3</sup></b>	5	Assesses criteria that suggest prescription opioid abuse in chronic pain patients
<b>ABC<sup>4</sup></b>	20	Track addiction behaviors related to prescription opioids

1. Belgrade MJ, et al. *J Pain*. 2006;7:671-681; 2. Coombs RB, et al. *Pain Res Manage*. 1996;1:155-162;  
3. Chabal C, et al. *Clin J Pain*. 1997;13:150-155; 4. Wu SM, et al. *J Pain Symptom Manage*. 2006;32:342-351.

# Risk Assessment and Screening Patient-Administered Tools

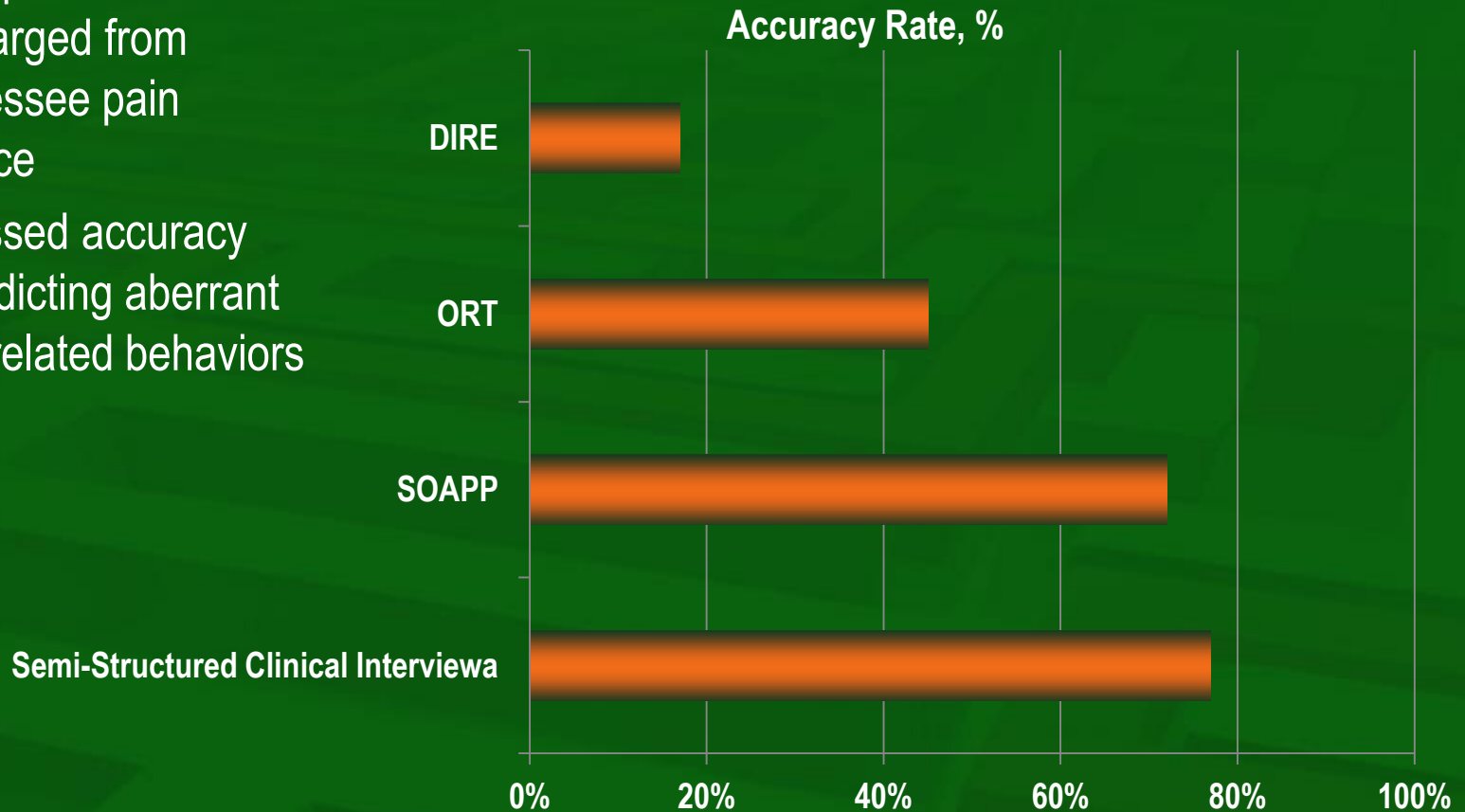
Tool	Items	Goal
ORT <sup>1</sup>	5	Predict, quantify potential for developing aberrant behavior during opioid therapy
SOAPP-R <sup>2</sup>	24	Predict potential opioid-related aberrant behavior Determine appropriateness of long-term opioid therapy for patients with CNCP
DAST <sup>3</sup>	28	Quantify extent of problems associated with drug abuse
CAGE-AID <sup>4</sup>	4	Identify misuse/addiction
STAR <sup>5</sup>	14	Predict, identify patients with addiction + pain
PMQ <sup>6</sup>	26	Assess risk for opioid medication misuse

1. Webster LR, Webster RM. *Pain Med.* 2005;6:432-442; 2. Butler SF, et al. *J Pain.* 2008;9:360-372.3;  
3. [www.drtepp.com/pdf/substance\\_abuse.pdf](http://www.drtepp.com/pdf/substance_abuse.pdf); 4. Brown RL, Rounds LA. *Wisconsin Medical Journal.* 1995;94:135-140;  
5. Li V, et al. *Pain Medicine.* 2001;2:2456; Adams LL, et al. *J Pain Symptom Manage.* 2004;27:440-459.

# How Do Risk Measures Compare?

## A Retrospective Study

- N=48 patients discharged from Tennessee pain practice
- Assessed accuracy in predicting aberrant drug-related behaviors



<sup>a</sup> With a psychologist who could access all other test results.  
Moore TM, et al. Pain Medicine, 2008;10:1426-1433.

# Opioid Agreement

- Sets forth expectations of patient, physician
  - Rationale for, goals of opioid therapy
  - Responsibilities of physician in prescribing opioids
  - Responsibilities of patient in using opioids
  - Potential AEs
- Should be signed after assessment, before starting opioid trial
- Should reflect patient literacy
  - Assessment of 162 English-language opioid contracts submitted by APS members
    - Mean readability grade level was 13.8
    - Vocabulary not conversational
  - Low-literacy English-language version developed, validated
    - 7th-grade reading level
    - Contains 26 statements, 12 clipart illustrations



# Jack

## Return to PCP After Interventional Care



- Referred to physical medicine specialist for imaging, potential interventional treatment
  - X-ray unremarkable
  - MRI showed mild stenosis at right L5-S1 disc
- Epidural steroid injection
  - Did not help
- Medication adjusted
  - Gabapentin 300 mg tid
  - Increased dose of hydrocodone/APAP
- 6 weeks later, returns to PCP reporting continued pain
  - 6/10, worsens with prolonged standing, walking
- Poor functioning
  - Sleep, mood
  - Still unable to return to his physically demanding job
- Ran out of medication early; requests early refill or larger supply

# Reevaluation of Opioid-Treated Patients

## The 4 As

- Analgesia
  - Pain level
  - 30% improvement?
- Activity
  - Functional level
  - Progress toward therapeutic goals
- AEs
  - Emergence, persistence
  - Treatment
- Aberrant drug-related behavior
  - Compliance monitoring
  - Undertreatment vs. misuse vs. abuse
  - Need for referral

# Jack

## Treatment Adjustment



- After determining that Jack is opioid-tolerant, PCP recommends switch to long-acting morphine

**Tolerance: state of adaptation in which exposure to a drug induces diminution of  $\geq 1$  of the drug's effects over time; can be undesirable (tolerance to analgesia) or desirable (tolerance to AEs)**

# SA vs LA Opioids

	Pros	Cons
<b>SA</b>	Onset of effect 30-40 min	Duration of action 2-4 hr Decreased absorption after full meal Affect limbic system rapidly (pleasure center)
<b>LA</b>	Duration of action 6-72 hr Less effect on limbic system (except oxycontin [30% of dose released in first 30-40 min]) More predictable serum levels, analgesic effect Avoids mini-withdrawals Easier to use; greater compliance, patient satisfaction Less reinforcement of drug-taking behavior; may be more appropriate if known or expected high risk Patients report being in control of pain, tend not to dose-escalate	Cost Increased dosage for potential diversion

# Opioid Rotation

## Principles and Fundamentals

Opioid rotation: switching from one opioid to another to ↑ analgesia, compliance and ↓ AEs

- Appropriate in cases of poor response, intolerable AEs
  - Long-term opioid use, CNCP, complex pain conditions
- Rate of use varies, 10%-40%
- Optimal choices unclear

Incomplete cross-tolerance: tolerance to AEs of one opioid does not imply same for another

- ↓ calculated dose of new agent by 25% to 50% at initiation
- Manage potential effects
  - Adjuvant analgesics during conversion
  - Specific treatment for AEs

# Follow-Up During Dose Adjustments

- Monitor closely to evaluate effectiveness of analgesia, tolerability of AEs
- Anticipate subsequent dose adjustments, rotations
  - $\geq 1$  rotation often necessary; sometimes 3-4
- Recognize that dose ratios in conversion tables may be more accurate for single-dose opioid administration than chronic opioid dosing

# A Call from Jack's Wife



- After 4 weeks of doing well on morphine, PCP hears concerns about Jack
  - Lost his job
  - Consumes alcohol excessively at night
  - Slurs speech
  - Has fallen
  - Verbally abusive
  - Suspected marijuana use
- PCP has discussion with Jack
  - Revisits opioid agreement
  - Refers for psychosocial evaluation
  - Orders UDT
- Jack reports continued pain
  - Medications help more with anxiety, sleep than with pain
  - Agrees to stop drinking
  - Denies marijuana use

**Chemical coping:** pattern of maladaptive coping through drug use; occasional misuse in times of stress

# Compliance Monitoring

## Purpose and Techniques

- Purpose
  - Identify previous, current drug use
  - Determine basis of treatment
  - Eliminate drug abuse, misuse
  - Implement adequate pain management strategies
- Techniques
  - Screening tests
  - Controlled substance agreements
  - Patient education
  - PDMPs
  - Medication reconciliation
  - UDT
  - Combination of above



# Urinary Drug Testing

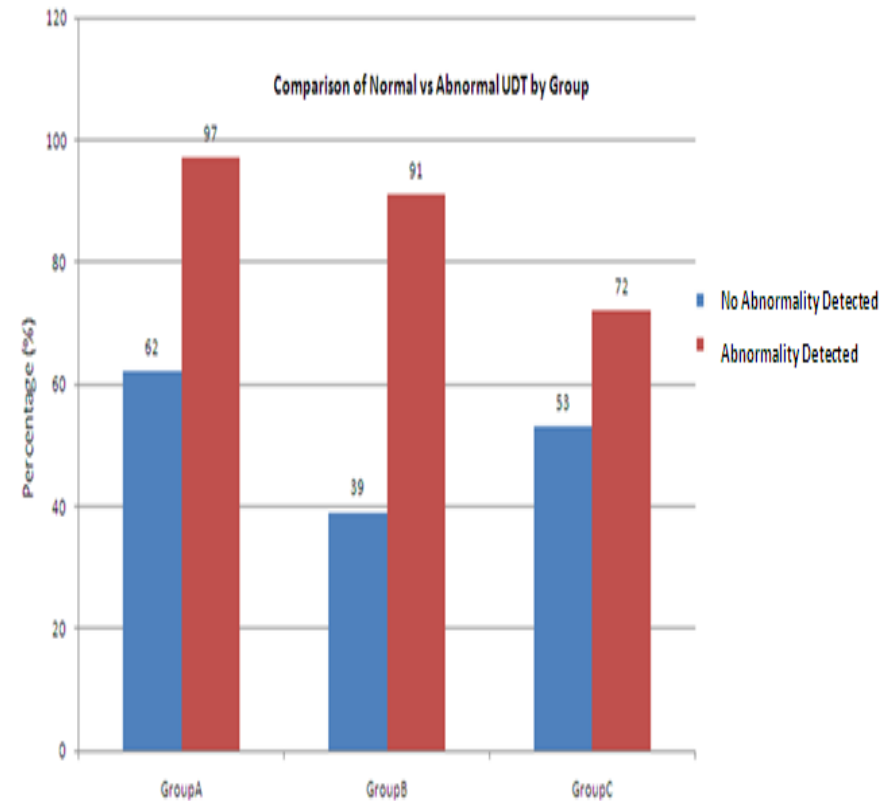
## Key Role in Safe Patient Management

- Detects presence or absence of drug class, agent, metabolites
  - Confirms compliance with treatment plan
  - Detects drug misuse as early as possible
  - Advocates for patient to 3rd-party interests
    - Insurers
    - Law enforcement

Make sure laboratory knows what you are looking for

# Clinical Suspicion vs UDT

- Prospective study (N=414)
- Suspected misuse: clinicians correct in 70% of cases
- NO suspected misuse: clinicians correct in only 39% of cases
- Overall, clinician accuracy in identifying categorization only slightly better than by chance.
  - Reinforces need for UDT for all opioid-treated patients



Group A, not suspected misuse  
Group B, suspected misuse  
Group C, randomly selected

# Urinary Drug Testing

## Pros and Cons

+	-
Extensively validated (vs sweat, saliva, hair, nails)	Cannot be used to calculate amount of drug taken
Non-invasive	Does not reflect time of last dose
Good sensitivity, specificity	Does not reflect frequency of drug use
Cost	Cannot indicate route of administration
Concentration of drug and metabolite stay in urine	May miss low levels of appropriate use in fast metabolizers

# Screening vs. Confirmatory Tests

	Screening test	Confirmatory test
<b>Analysis Technique</b>	Immunoassay	GS/MS or HPLC
<b>Use</b>	Qualitative; detects drug class	Quantitative; identifies specific drug
<b>Power to detect synthetic/ semi-synthetic opioids</b> (fentanyl, buprenorphine, hydrocodone, hydromorphone, methadone, oxycodone,)	Low/none	High
<b>Cost</b>	Inexpensive (FDA 5-drug testing kit ~ \$1)	More expensive; may not be covered by insurance
<b>Turnaround</b>	Rapid; 1-3 d	Slow; >3 d
<b>Other</b>	Intended for drug-free population; may not be useful in pain medicine	Legally defensible results

# Positive or Negative UDT Results

## Potential Causes and Actions

### + Prescribed Medication

- Adherence
- Substance producing same metabolite as prescribed
- False positive



- Confirm

### + Other Substance

- Illicit or unprescribed drug, OTC
- Substance producing same metabolite as illicit or unprescribed drug, OTC
- False positive



- Confirm, discuss, consider referral
- Discuss, ↑ vigilance via frequent follow-up, pill counts, smaller supply, PDMP

### – Prescribed Medication

- Diversion
- Irregular intake, bingeing
- False negative
- Inability of lab to detect desired substance



# Urine Drug Testing Results

N=230 patients on  $\geq 60$ -day opioid therapy

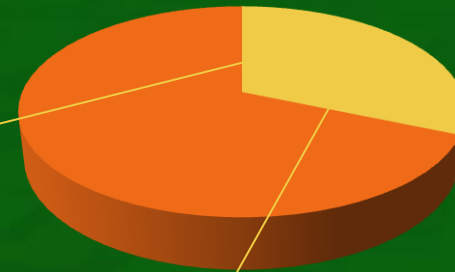
– From 12 states (mostly Florida)

300 UDT results

– July 2007-July 2008

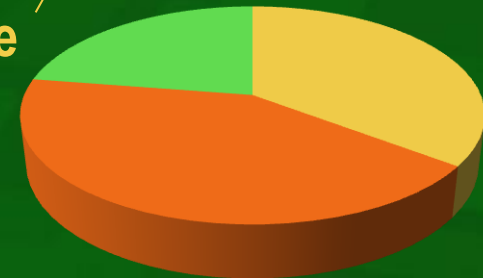
## All Patients

■ Noncompliant  
■ Compliant



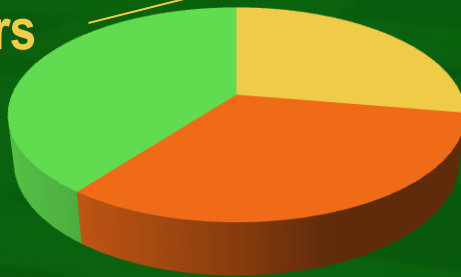
## Response

■ Generated physician response: counseling, discontinuation of opioid medication, discharge from practice  
■ No visible physician response (no notation in notes and no prescription adjustment),  
■ No data(claim settlement, pt. no-show, etc.)



## Behaviors

■ Not taking prescribed pain medication  
■ Taking other nonprescription controlled substances  
■ Using illicit drugs



# Jack

## UDT Results



- Positive for non-prescribed drug, illicit drug
  - Oxycodone
  - Marijuana
- PCP suspects doctor shopping or acquisition of opioids from friend or family
  - Checks state PDMP to research prescribing records
  - Calls Jack to schedule follow-up

# Jack

## Treatment Adjustment



- PCP discusses findings with Jack, who admits to using a friend's oxycodone when his morphine “didn't work” or he “couldn't sleep”
  - Reviews opioid agreement again
  - Reminds Jack that opioid use does not guarantee complete pain relief, opioids not to be used for sleep
  - Increases dose of hydrocodone/APAP for BTP
  - Prescribes sleep agent (WHICH?)
- Refers Jack for psychological evaluation



# Jack

## Psychological Evaluation







- After initial refusal, Jack agrees to evaluation, shares information that he did not provide to PCP
  - “Medication isn’t working, but when I tried stopping it, I felt even worse”
  - Friend’s oxycodone the “only thing that helps”
  - Describes “constant edginess and irritability”
  - Feels “useless” without work

**Physical dependence: state of adaptation manifested by rebound or withdrawal symptoms produced by abrupt cessation or rapid dose reduction, decreasing blood levels of drug, or administration of antagonist**

# Chronic LBP

## Beyond Physical Pain

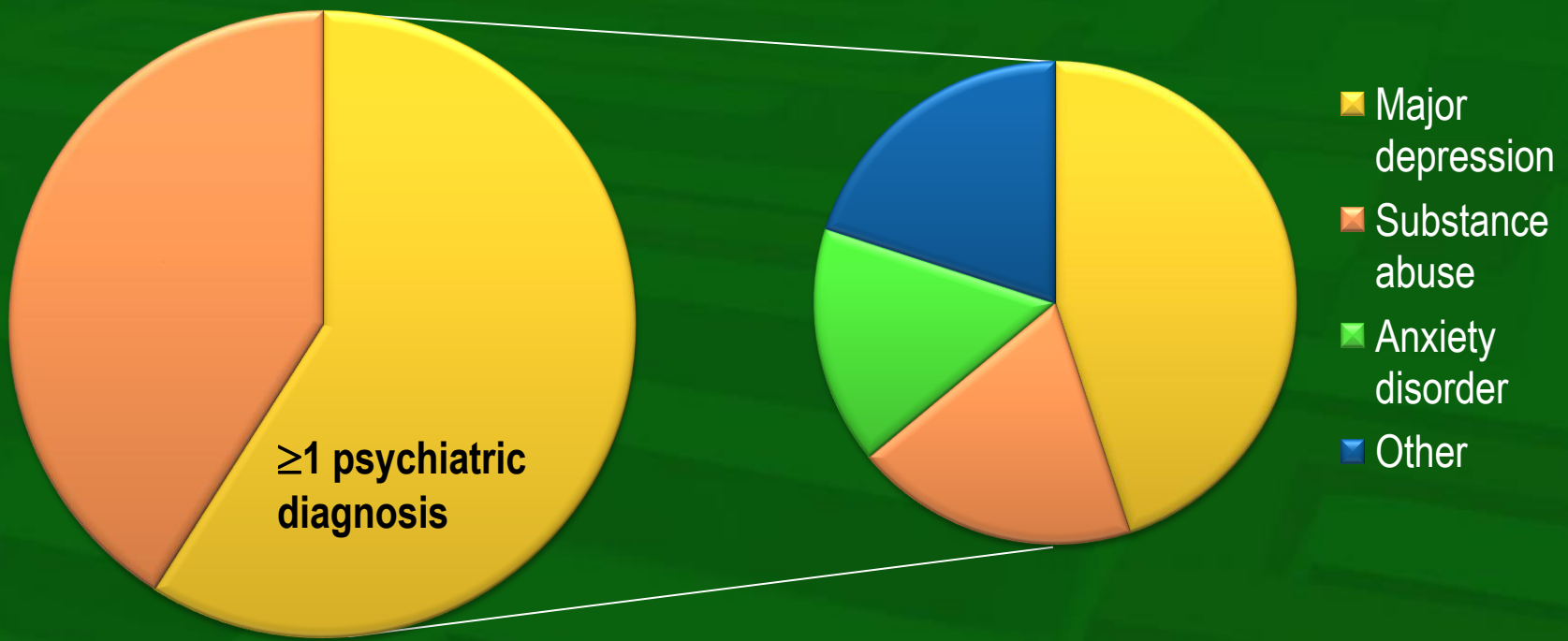
- Patients with LBP 3 × more likely to self-report fair or poor health, 4 × more likely to have serious psychological distress

	Without LBP	With LBP
In fair or poor health		
Serious psychological distress		

# Chronic LBP

## Psychiatric Comorbidities

Patients with chronic back pain entering functional restoration (N=200)



# Is Jack Addicted to Opioids?

- At psychologist's urging, Jack shares his concerns with the PCP
  - Still reluctant to stop opioid treatment
    - Fears withdrawal
    - Fears lack of options, lifetime of disability

# Addiction

- Primary, chronic, neurobiologic disease of the brain
  - Reward
  - Motivation
- Memory, related circuitry
- Multiple factors influencing development, manifestations
  - Genetic
  - Psychosocial
  - Environmental

## **Addiction:** $\geq 1$ of the “4 Cs”

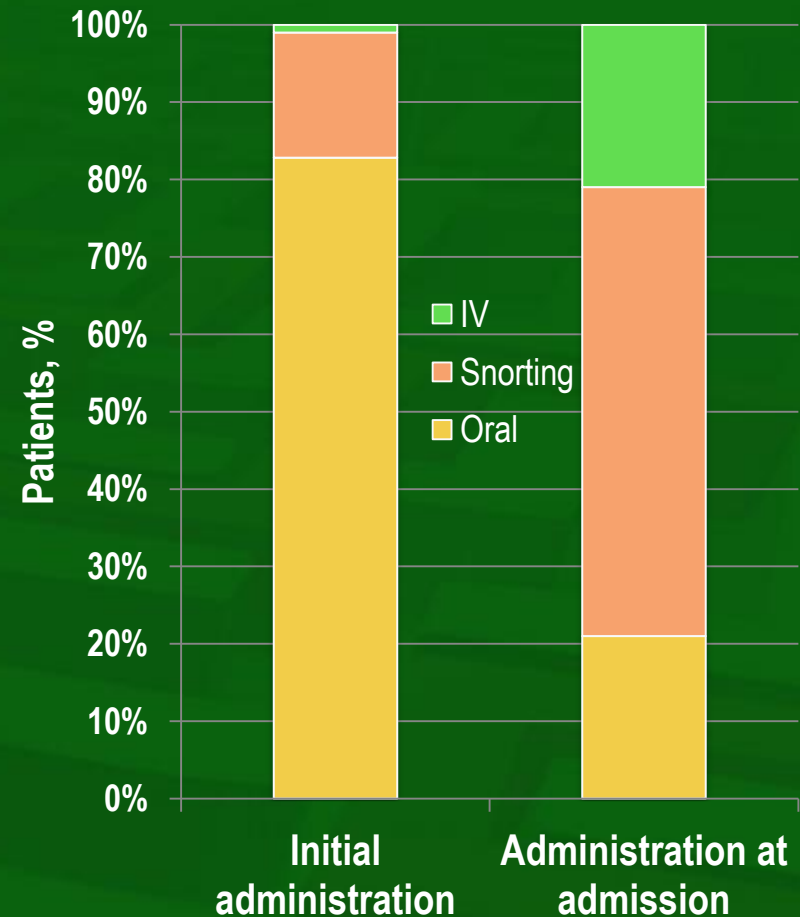
- Impaired control over use
- Compulsive use
- Continued use despite harm
- Craving

**Pseudoaddiction:** drug-seeking behavior that mimics addiction but subsides with effective analgesic intervention

# Pain Patients as Nonmedical Users

## A Chart Review Study

- N=162 patients entering substance abuse treatment for problems with oxycodone SR
  - 117 men, 45 women
  - Mostly rural (n=148, 91.4%)
  - Mean dose, 181.3 mg
  - Mean duration, 19.7 months
- 160 (98.8%) bought on street
- 78 (48.1%) also used other opioids (hydrocodone products/methadone)
- 48 (29.6%) obtained drug through legitimate Rx



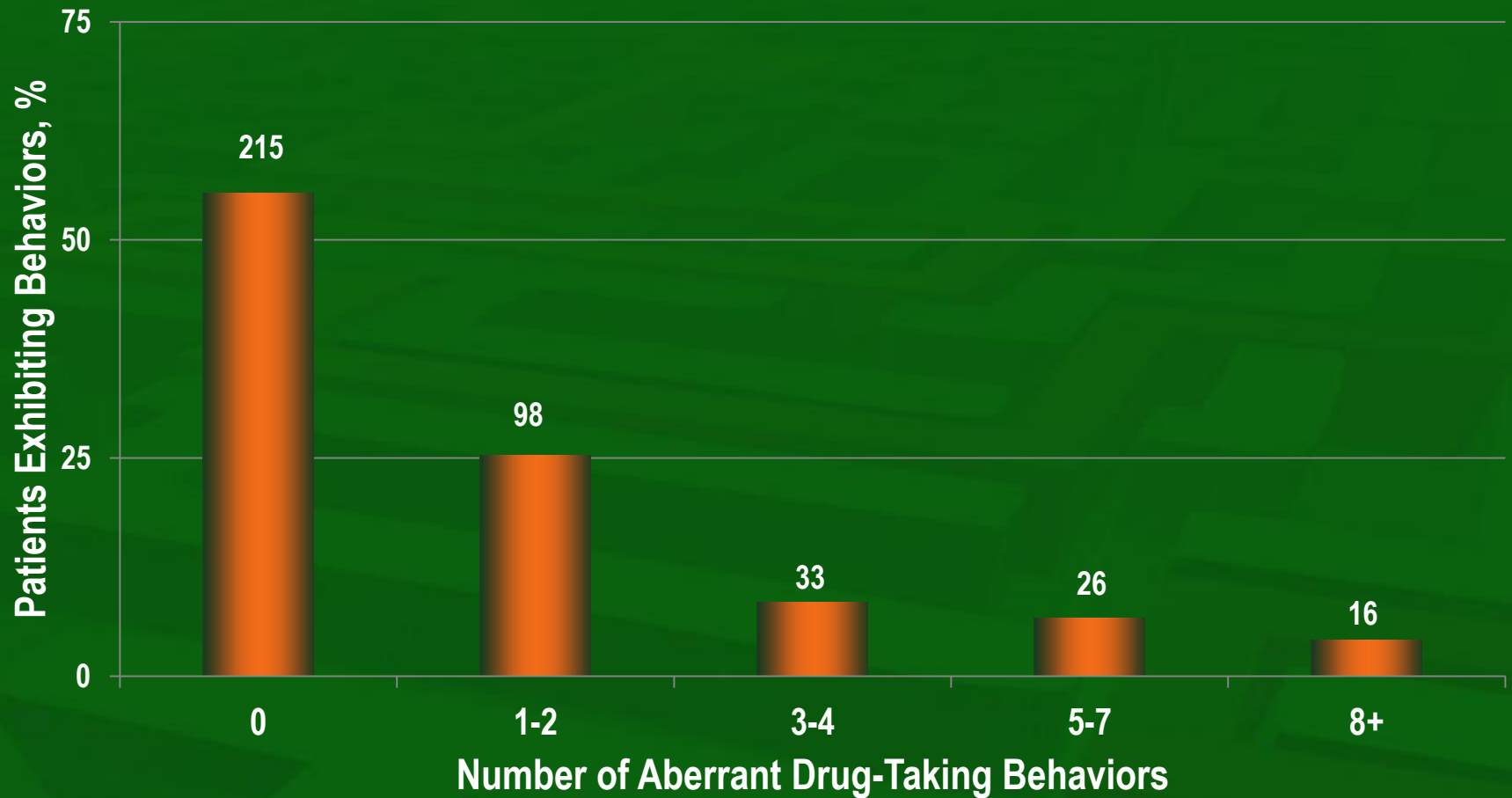
# Pain Patients as Nonmedical Users

## A Prospective Study

- N=109 patients entering substance abuse treatment
  - 75 men, 34 women
  - Mean age 31 y
- 61% had chronic pain
- 84% received legitimate opioid prescription for pain medication at some point
- 91% purchased prescription opioids from street dealer at least once
- 80% altered delivery system of prescription drug by chewing, snorting, IV administration
- Most commonly abused drugs
  - Hydrocodone (78%)
  - Oxycodone (69%)
  - Methadone (23%)
  - Fentanyl (7%)

# Pain Patients as Nonmedical Users

## Aberrant Behaviors in a Prospective Study

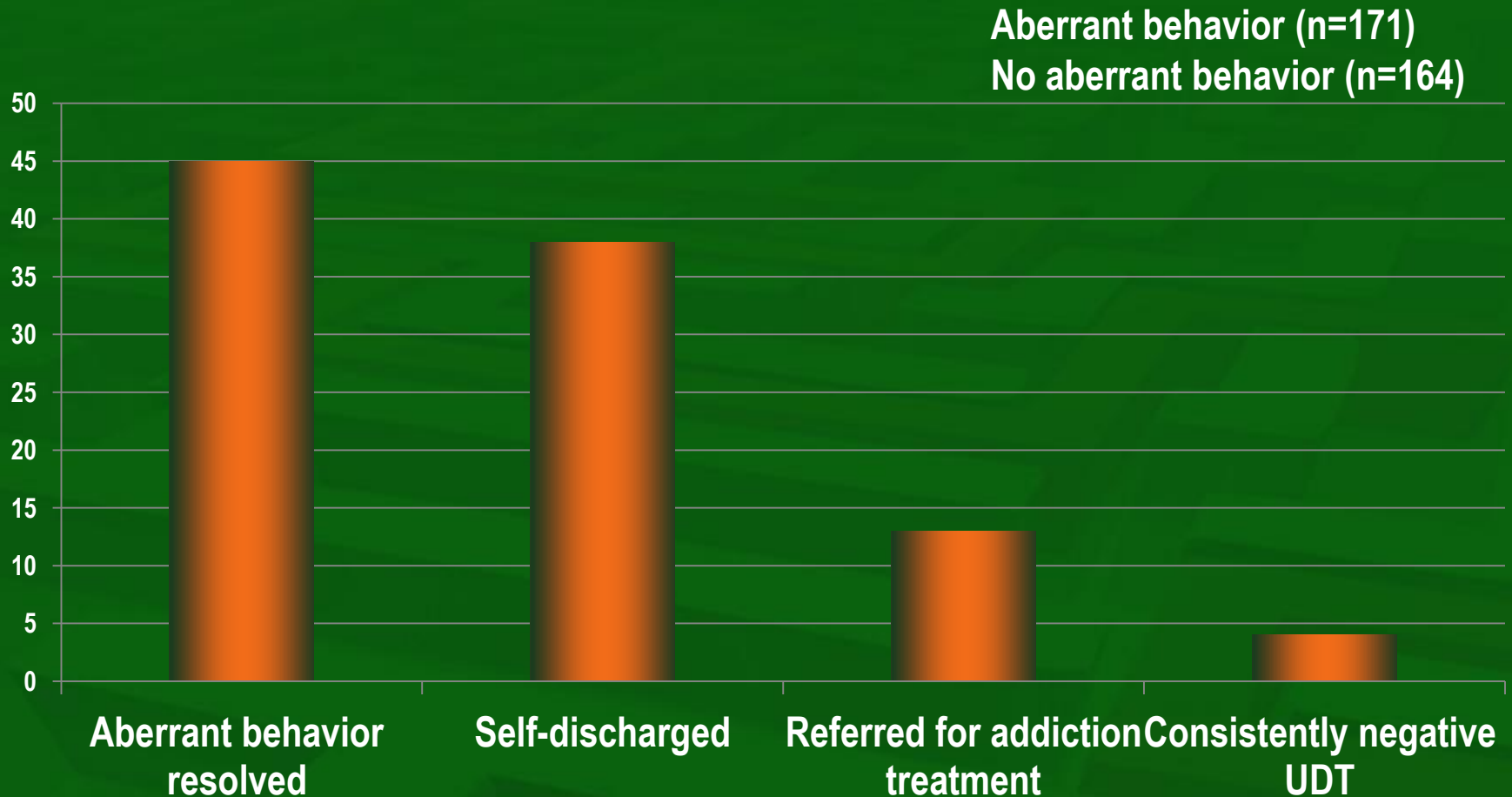




# Adherence Therapy for Opioid-Abusing Pain Patients: the NIDA Study

- N=36 patients with pain >6-mo duration, VAS >7 despite daily opioids
  - Substance abuse comorbidity permitted
    - >2 on “problems with pain meds”
    - SCID-diagnosed opioid use disorder (abuse, dependence)
  - Other current substance use disorder, lifetime dependence not permitted
  - Psychiatric, medical comorbidities not permitted
- Interventions
  - Adherence, motivational adherence therapy
  - Methadone therapy
- Outcomes
  - ↑ methadone dose over time; ↓ all other opioids
  - Trend level ↓ in misuse of nonopioids

# Aberrant Behavior Outcomes The Opioid Renewal Clinic



# Discontinuing Opioid Therapy

## Exit Strategies

- Warranted in certain cases
  - Intolerable AEs
  - Failure to progress to goals
  - Lack of compliance
  - Aberrant drug-related behavior
- Inadequate evidence to identify optimal strategy, setting
  - ↓ dose 10% to 50% per week
  - Outpatient sufficient for patients without substantial medical or psychiatric comorbidities
  - Inpatient detox or outpatient rehab useful for some patients
  - Addiction treatment for those whose aberrant drug-related behavior is due to addiction

Symptoms of Opioid Withdrawal	
Initial 1-2 wk	≤6 mo
Anxiety	Anxiety
Shaking	Poor sleep
Diarrhea	Widespread paresthesia
“Goose bumps”	Mood changes

# Jack

## A Plan that Works

- Suspecting that untreated depression underlies Jack's aberrant behavior, PCP adjusts Jack's medications once again
  - Long-acting morphine xxx
  - Hydrocodone/APAP xxx prn
  - Sleep agent xxx
  - Venlafaxine 37.5 mg bid
- Compliance monitoring
  - Weekly opioid prescriptions
  - Frequent UDT and PDMP checks
- Co-management with psychologist
- Documentation in medical record
- Counseling

# Summary

- Opioid medications are appropriate for some carefully selected patients with chronic pain
- Visual inspection cannot determine a patient's risk for aberrant drug-related behavior with opioid therapy
- Every patient on long-term opioid treatment should be monitored for development of misuse or abuse
  - Structured initial, follow-up assessments
  - UDT, PDMP
  - Treatment agreements
  - Education, counseling

**Potential benefits include improved patient care, reduced stigma, overall risk containment**