“Ice, Snow, and Wisdom Weed.”
Illicit Drug Use and Prescription Drug Abuse in Hospitalized Patients

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UNIVERSITY OF COLORADO HOSPITAL
Outline

- Review impact and cost of illicit drug use
- Identify barriers to taking care of hospitalized patients with a history of illicit drug use and/or prescription drug abuse
- Evaluation and treatment of hospitalized patients with substance abuse and/or prescription drug abuse
  - Recognition
  - Screening tools
  - Pain assessments
  - Brief interventions
“There is a great deal of antagonism set up, because the doctors are the ones with the keys to the “narc” cabinet...and the patients are the ones who need and want the narcotics, both for real and objectifiable and unobjectifiable reasons, and that puts all the doctors in a difficult position.”

Mutual Mistrust in the Medical Care of Drug Users. The Keys to the “Narc.” 2002
“I feel like I am being used and abused by the users and abusers.”
"I feel like I am being used and abused by the users and abusers."

- Dr. Amira del Pino-Jones, MD
An estimated 3 million individuals in the United States (US) have serious drug problems, defined as the use of:
- illegal drugs
- legal psychoactive drugs without a prescription
- legal psychoactive drugs in amounts greater than prescribed

*Drug War Facts: Annual Causes of Death in the United States*
### Annual Causes of Death in the United States

<table>
<thead>
<tr>
<th>Cause of Death</th>
<th>Number of Deaths</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tobacco</td>
<td>435,000</td>
</tr>
<tr>
<td>Poor Diet and Physical Inactivity</td>
<td>365,000</td>
</tr>
<tr>
<td>Alcohol</td>
<td>85,000</td>
</tr>
<tr>
<td>Microbial Agents</td>
<td>75,000</td>
</tr>
<tr>
<td>Toxic Agents</td>
<td>55,000</td>
</tr>
<tr>
<td>Motor Vehicle Crashes</td>
<td>26,347</td>
</tr>
<tr>
<td>Adverse Reactions to Prescription Drugs</td>
<td>32,000</td>
</tr>
<tr>
<td>Suicide</td>
<td>30,622</td>
</tr>
<tr>
<td>Incidents Involving Firearms</td>
<td>29,000</td>
</tr>
<tr>
<td>Homicide</td>
<td>20,308</td>
</tr>
<tr>
<td>Sexual Behaviors</td>
<td>20,000</td>
</tr>
<tr>
<td><strong>All Illicit Drug Use, Direct and Indirect</strong></td>
<td><strong>17,000</strong></td>
</tr>
<tr>
<td>Non-Steroidal Anti-Inflammatory Drugs</td>
<td>7,600</td>
</tr>
<tr>
<td>Marijuana</td>
<td>0</td>
</tr>
</tbody>
</table>

*Drug War Facts: Annual Causes of Death in the United States*
Statistics

- Twenty percent (20%) of people in the US have used prescription drugs for non-medical reasons
- Most common drugs include:
  - Narcotic Pain Killers
  - Sedatives and Tranquilizers
  - Stimulants
In 2002, an estimated 4 to 6 million patients in the US were using opioids for pain relief.

From 1992 to 2002, admissions to substance abuse centers for opioid abuse increased by 117%.

From 1992 to 2002, ED visits for opioid abuse increased by 117%.

From 1992 to 2002, new opioid users increased by 542%.

DO THE MAJORITY OF PATIENTS WHO TAKE OPIOID MEDICATIONS REGULARLY BECOME ADDICTED?
Prescription Drug Abuse

- In a study of 800 primary care patients taking opioids, the rate of addiction was roughly 4%
- For patients who have never used opioids previously, the rate is as low as 1%

Prescription Drug Abuse

- In pain clinic patients taking opioids regularly:
  - 40% will exhibit aberrant behaviors
  - 20% will abuse or misuse their medications
  - 2-5% will become addicted

Statistics

- 10% to 16% of outpatients seen in the general medical practice are suffering from problems related to addiction
- 25% to 40% of hospital admits are related to substance abuse and its sequelae

Illicit Drug Use Among Hospitalized Patients


- Determined prevalence and hospital costs by payer group and type of drug used

J Subst Abuse Treat, 2008
Illicit Drug Use Among Hospitalized Patients


- Four primary drug types were reported
  - 49% used a combination of two or more drugs
  - 25% used alcohol only
  - 11.8% used opioids only
  - 6.5% used cocaine only

J Subst Abuse Treat, 2008
Illicit Drug Use Among Hospitalized Patients


- Costs of admission increased significantly for those using two or more drugs, alcohol and opioids

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Two or more drugs</td>
<td>12,700,000</td>
<td>27,800,000</td>
<td>119</td>
</tr>
<tr>
<td>Alcohol</td>
<td>9,000,000</td>
<td>19,800,000</td>
<td>120</td>
</tr>
<tr>
<td>Opioids</td>
<td>1,700,000</td>
<td>9,900,000</td>
<td>482</td>
</tr>
</tbody>
</table>
Illicit Drug Use Among Hospitalized Patients


- Medicaid/Medicare represented 70% of the overall number of admissions and also paid 70% of hospital costs
- Illicit drug use was more common among Medicaid/Medicare and uninsured patients
- Alcohol abuse was more common among private payer admissions

J Subst Abuse Treat, 2008
The Problem

- Treating acute illness in the setting of drug addiction is complex.
- Physicians have often been excluded from a major role in the treatment of addiction.
- This has contributed to a lack of physician skills in screening, assessment, treatment, and referral of patients with substance abuse problems.

_Mutual Mistrust in the Medical Care of Drug Users. The Keys to the “Narc.” Merrill et al. 2002_
The Problem

- Physicians are increasingly concerned about possible legal, regulatory, licensing, or other 3rd party sanctions
- This may contribute to under-treatment of pain syndromes, specifically in patients with a history of substance abuse

*Mutual Mistrust in the Medical Care of Drug Users. The Keys to the “Narc.” Merrill et al. 2002*
WHAT ARE SOME BARRIERS TO TREATING HOSPITALIZED PATIENTS WITH A HISTORY OF ILLICIT DRUG USE AND/OR PRESCRIPTION DRUG ABUSE?
Survey

“Professional Satisfaction Experienced When Caring for Substance-abusing Patients.”

- Surveyed resident and faculty physicians regarding professional satisfaction when caring for patients with addictions
- Focused on perceived responsibility for caring for addictions, confidence in clinical skills, attitudes towards patients, interpersonal experience

J Gen Intern Med, 2002
“Professional Satisfaction Experienced When Caring for Substance-abusing Patients.”

- Of 157 physicians, 144 (92%) completed the survey
- Faculty mean age = 40.3
- Resident mean age = 28.5
- ¼ of residents were in their intern year, 34% in 2nd year, 35% in 3rd year
- Equally matched in terms of gender

*J Gen Intern Med, 2002*
Results

“Professional Satisfaction Experienced When Caring for Substance-abusing Patients.”

- Physicians who reported counseling patients on drug use:
  - 1\textsuperscript{st} year residents = 52%
  - 2\textsuperscript{nd} year residents = 63%
  - 3\textsuperscript{rd} year residents = 73%
  - Faculty = 88% * P < 0.01

* J Gen Intern Med, 2002
Results

“Professional Satisfaction Experienced When Caring for Substance-abusing Patients.”

- Physicians who reported knowing someone with drug or alcohol abuse were more confident in using screening tools (73% vs. 47%)

*J Gen Intern Med, 2002*
Table 1: Resident and Faculty Differences in Substance Abuse-related Practices, Confidence, and Attitudes

<table>
<thead>
<tr>
<th></th>
<th>Residents</th>
<th>Attendings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Counseling patients with alcohol problems at least usually (%)</td>
<td>67</td>
<td>90</td>
</tr>
<tr>
<td>Counseling patients with drug problems at least usually (%)</td>
<td>66</td>
<td>88</td>
</tr>
<tr>
<td>Confidence in assessment and intervention skills (mean)</td>
<td>3.4</td>
<td>3.7</td>
</tr>
<tr>
<td>Agreement with negative attitudes towards substance-abusing patients (mean)</td>
<td>4.0</td>
<td>4.3</td>
</tr>
</tbody>
</table>

Adapted from article “Professional Satisfaction Experienced When Caring for Substance-abusing Patients. JGIM. 2002.”
Table 2: Professional Satisfaction of Primary Care Physicians Caring for Patients with Addictions and Other Diagnoses

Percent who experience a “great deal” or a “moderate” amount of satisfaction when caring for patients with...

<table>
<thead>
<tr>
<th></th>
<th>Residents</th>
<th>Faculty</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alcohol Problems</td>
<td>32</td>
<td>49</td>
<td>0.042</td>
</tr>
<tr>
<td>Drug Problems</td>
<td>30</td>
<td>31</td>
<td>0.003</td>
</tr>
<tr>
<td>Depression</td>
<td>43</td>
<td>69</td>
<td>0.001</td>
</tr>
<tr>
<td>Hypertension</td>
<td>79</td>
<td>76</td>
<td>0.01</td>
</tr>
</tbody>
</table>

Adapted from article “Professional Satisfaction Experienced When Caring for Substance-abusing Patients. JGIM. 2002.”
“Professional Satisfaction Experienced When Caring for Substance-abusing Patients.”

- Physicians were more satisfied when caring for patients with hypertension than depression or substance problems.

*J Gen Intern Med, 2002*
“Professional Satisfaction Experienced When Caring for Substance-abusing Patients.”

- Experience and/or training impact satisfaction caring for patients with alcohol and drug problems
- Favorable perceptions (confidence in skills, attitudes towards patients, and perceived responsibility) are related to professional satisfaction.

*J Gen Intern Med, 2002*
“Mutual Mistrust in the Medical Care of Drug Users. The Keys to the ‘Narc’ Cabinet.”

- Investigated the experience of drug-using patients and their physicians during inpatient hospital stays
- Public teaching hospital
- Conducted over 20 weeks between June and December 1997
- Used focused ethnography as research method

J Gen Intern Med, 2002
“Mutual Mistrust in the Medical Care of Drug Users. The Keys to the ‘Narc’ Cabinet.”

- Eight inpatient physician teams participated
- Recruited patients who were actively engaged in illicit injection drug use or crack cocaine
- Followed patients and teams throughout hospitalization

*J Gen Intern Med, 2002*
Study Design

“Mutual Mistrust in the Medical Care of Drug Users. The Keys to the ‘Narc’ Cabinet.”

- Notes included:
  - recordings of conversations
  - comments
  - sequence of events
  - researcher reflections on developing themes

*J Gen Intern Med, 2002*
“Mutual Mistrust in the Medical Care of Drug Users. The Keys to the ‘Narc’ Cabinet.”

- 12% of patients (27) admitted to the teams were known to be active users of injection drugs or crack cocaine
- 19 of 27 were enrolled
“Mutual Mistrust in the Medical Care of Drug Users. The Keys to the ‘Narc’ Cabinet.”

**Patients:**
- Median age 45 (range 32-70)
- 14 were current users
- 3 had stopped 1 month prior to admission
- 18 used heroin as main substance
- Most common admitting diagnoses were soft tissue (47%) and pulmonary (21%) infections

*J Gen Intern Med, 2002*
Participants

“Mutual Mistrust in the Medical Care of Drug Users. The Keys to the ‘Narc’ Cabinet.”

Physicians:
- 11 interns
- 1 sub-intern
- 8 senior residents
- 8 attending physicians
- 21 male and 8 female

J Gen Intern Med, 2002
“Mutual Mistrust in the Medical Care of Drug Users. The Keys to the ‘Narc’ Cabinet.”

- Four major themes identified:
  - Fear of deception
  - Lack of standard approach to assess and treat clinical issues
  - Avoiding engaging patients in key patient complaints
  - Patient fear of mistreatment

*J Gen Intern Med, 2002*
“Mutual Mistrust in the Medical Care of Drug Users. The Keys to the ‘Narc’ Cabinet.”

- Opiate prescription focal point of fear
- Many patients recognized physicians’ fear
- Many patients also feared that other “drug-seeking” patients would interfere with their pain management

J Gen Intern Med, 2002
No Standard Approach

“Mutual Mistrust in the Medical Care of Drug Users. The Keys to the ‘Narc’ Cabinet.”

- Inconsistent histories (substance abuse history, patterns, etc.)
- Arbitrary in terms of who received pain meds and who did not
- Use of subjective statements vs. objective evidence
- Attendings rarely gave guidance regarding treatment of pain or withdrawal

*J Gen Intern Med, 2002*
## Factors Associated With Being Asked About Drug Use

<table>
<thead>
<tr>
<th>Category</th>
<th>n = number of patients asked about drug abuse</th>
<th>% = percentage of patients asked about drug abuse</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Men</td>
<td>24/128</td>
<td>19</td>
<td>0.83</td>
</tr>
<tr>
<td>Women</td>
<td>18/107</td>
<td>17</td>
<td></td>
</tr>
<tr>
<td>African American</td>
<td>6/19</td>
<td>32</td>
<td>0.19</td>
</tr>
<tr>
<td>Caucasian</td>
<td>36/216</td>
<td>17</td>
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</tr>
<tr>
<td>Smoker</td>
<td>20/78</td>
<td>26</td>
<td>0.04</td>
</tr>
<tr>
<td>Non-smoker</td>
<td>22/157</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td>Has regular physician</td>
<td>7/83</td>
<td>8</td>
<td>0.009</td>
</tr>
<tr>
<td>No regular physician</td>
<td>35/152</td>
<td>23</td>
<td></td>
</tr>
<tr>
<td>Employed</td>
<td>23/142</td>
<td>16</td>
<td>0.51</td>
</tr>
<tr>
<td>Unemployed</td>
<td>19/93</td>
<td>21</td>
<td></td>
</tr>
<tr>
<td>Married</td>
<td>13/119</td>
<td>11</td>
<td>0.02</td>
</tr>
<tr>
<td>Unmarried</td>
<td>29/126</td>
<td>21</td>
<td></td>
</tr>
<tr>
<td>Age &lt;45 years</td>
<td>31/143</td>
<td>22</td>
<td>0.08</td>
</tr>
<tr>
<td>Age &gt;45 years</td>
<td>11/82</td>
<td>13</td>
<td></td>
</tr>
</tbody>
</table>

No Standard Approach

“Mutual Mistrust in the Medical Care of Drug Users. The Keys to the ‘Narc’ Cabinet.”

- Patient’s interpretation of physician variability included:
  - lack of interest
  - poor clinical skills
  - physician bias against drug users

*J Gen Intern Med, 2002*
Avoidance

“Mutual Mistrust in the Medical Care of Drug Users. The Keys to the ‘Narc’ Cabinet.”

- Physicians focused on acute medical problems (with exception of pain complaints)
- Avoided intervening in addiction problems

J Gen Intern Med, 2002
“Mutual Mistrust in the Medical Care of Drug Users. The Keys to the ‘Narc’ Cabinet.”

Resident: “Good Morning”
Patient: “I’m in terrible pain.”
Resident: “This is Dr. Attending and Dr. Intern, who will be taking care of you.”
Patient: “I’m in terrible pain.”
Attending: “We’re going to look at your foot.”
Patient: “I’m in terrible pain...”
Resident: “Did his dressing get changed?”
Patient: “Please don’t hurt me.”

J Gen Intern Med, 2002
Fear of Mistreatment

“Mutual Mistrust in the Medical Care of Drug Users. The Keys to the ‘Narc’ Cabinet.”

- Delays attributable to hospital inefficiency were interpreted by patients as intentional mistreatment.
- Patients were more likely to be fearful if they had poor interactions during previous hospitalizations.

*J Gen Intern Med, 2002*
“Mutual Mistrust in the Medical Care of Drug Users. The Keys to the ‘Narc’ Cabinet.”

- Drug-using patients and their physicians were mutually suspicious
- Approaches to pain and withdrawal were inconsistent between physicians
- Prior experiences influenced subsequent interactions for both patients and physicians
“Mutual Mistrust in the Medical Care of Drug Users. The Keys to the ‘Narc’ Cabinet.”

- Implementation of blended addiction and pain management education may be beneficial
- Need to promote more effective counseling approaches
- Focus on motivational interviewing

*J Gen Intern Med, 2002*
BASED ON THESE STUDIES, WHAT IS THE BEST WAY TO EVALUATE AND TREAT HOSPITALIZED PATIENTS WITH SUBSTANCE ABUSE AND/OR PRESCRIPTION DRUG ABUSE?
Step 1

RECOGNIZE SIGNS AND SYMPTOMS OF ILLICIT DRUG USE AND PRESCRIPTION DRUG ABUSE
Recognizing Drug Abuse

- **Warning signs**
  - Sudden change in patients behavior
  - Sudden loss of job or frequent job changes
  - Un-explained financial or family problems
  - New complaints of sexual dysfunction
Recognizing Drug Abuse

**Physical Exam**
- Needle marks or tracks
- Atrophy of nasal mucosa
- Perforation of nasal septum
- E/o endocarditis, hepatitis, respiratory problems
Recognizing Drug Abuse

- **Laboratory Data**
  - Elevated MCV
  - Transaminitis
  - Widened QRS or Prolonged QT
  - Positive Urine Toxicology Screen
Recognizing Prescription Drug Abuse

- Aberrant behaviors more predictive of addiction:
  - concurrent use of illicit drugs
  - stealing or selling prescription drugs
  - deterioration in family and work relationships related to drug use

* "How to manage pain in addicted patients.” D’Arcy MS, CRNP, CNS."
Step 2

Utilize screening tools to assess for illicit drug use and prescription drug abuse
Screening for Substance Abuse

- Ideally, we should screen patients for drug abuse, just as we do for DM and HTN
- Examples of screening tools:
  - CAGE
  - Trauma Test
CAGE Assessment

- Have you tried to **cut down** on your drug or ETOH use?
- Do you get **annoyed** when people comment on your drug or ETOH use?
- Do you feel **guilty** about things you have done while drunk or using drugs?
- Do you need an **eye-opener** to get started in the AM?

*Validated for identifying substance abuse. 79% Sensitivity and 77% Specificity.*
Trauma Test

“Since your 18th birthday, have you”:
- Had any fractures or dislocations of your bones or joints (excluding sports injuries)?
- Been injured in a traffic accident?
- Injured your head (excluding sports injuries)?
- Been in a fight or been assaulted while intoxicated?
- Been injured while intoxicated?

A positive response to 2 or more of these questions indicates a strong potential for addiction.
Step 3

PERFORM PAIN ASSESSMENTS ON ADMISSION TO THE HOSPITAL
Pain Assessment

- **3 Main goals for pain assessment** (American Pain Society)
  - Characterize pain status and experience over time
  - Provide basis for treatment decisions
  - Document the effectiveness of pain management

Pain Questionnaire
World Health Organization’s Analgesic Ladder
Pain Assessment

Additional Documentation

- Four A’s
  - Analgesia
  - Activities of Daily Living
  - Adverse effects
  - Aberrant behaviors

Step 4

ASSESS WILLINGNESS TO CHANGE
Overview of Stages of Change*

PRECONTEMPLATION
- Client does not recognize the need for change or is not actively considering change.

CONTEMPLATION
- Client recognizes problem and is considering change.

ACTION
- Client has initiated change.

MAINTENANCE
- Client is adjusting to change and is practising new skills and behaviours to sustain change.

LEAVES
- Client leaves treatment.

TREATMENT
- Client is in treatment.

RELAPSE
- Client has relapsed to drug use.

Willingness to Change

“Tobacco, Alcohol, and Drug Use Among Hospital Patients: Concurrent Use and Willingness to Change.”

- Cross-sectional survey of non-Intensive Care Unit hospital patients at 2 public hospitals by bedside interview
- Severity of use and willingness to change behavior was determined
- Evaluated association between smoking and substance abuse by multivariate analysis

Society of Hospital Medicine, 2008
Willingness to Change

“Tobacco, Alcohol, and Drug Use Among Hospital Patients: Concurrent Use and Willingness to Change.”

- Of 7,391 patients with known smoking status:
  - 2,684 (36%) were current smokers
  - Among the current smokers, 1,376 (51%) had current substance abuse

Society of Hospital Medicine, 2008
Willingness to Change

“Tobacco, Alcohol, and Drug Use Among Hospital Patients: Concurrent Use and Willingness to Change.”

- Regardless of substance use patterns, most patients (60%) expressed a desire to immediately stop smoking

  “Hospital patients who describe at-risk substance use are likely to smoke and express willingness to quit smoking...desire to change both behaviors.”

Society of Hospital Medicine, 2008
Step

PERFORM BRIEF INTERVENTION
Brief Interventions

- **FRAMES**
  - Feedback
  - Responsibility
  - Advice
  - Menu
  - Empathy
  - Self Efficacy
ARE BRIEF INTERVENTIONS EFFECTIVE IN THE HOSPITAL SETTING?
Brief Interventions: Example

- Denver Health (ED and hospitalized patients)
  - Brief questionnaire and/or interview
  - Immediate counseling (5-15 min) by health educator or licensed physician
  - Referral to treatment

“The Hospital Substance Use and Screening and Treatment Market Analysis for Melissa Memorial Hospital.” 2011
Brief Interventions: Example

- 6 Month follow-up
  - Average number of heavy alcohol use in last 6 months dropped by 67% (15.9 days to 5.2 days)
  - Illegal drug use dropped by 62% (14.4 days to 5.5 days)
Brief Interventions: Example

- 6 Month follow-up, cont.
  - Use of cannabis fell by 59% (14.6 to 6 days)
  - Use of cocaine fell by 885% (6.6 to 0.8 days)
Conclusions

- Treating patients with substance abuse and prescription drug abuse in the hospital can be complicated
- Physicians may benefit from combined training in pain management and treatment of patients with addiction problems
- Specific interventions (i.e. standardized approach to taking care of patients, pain assessments, brief interventions) may be useful in hospitalized patients with addiction problems
QUESTIONS?
Friedmann et al. “Screening and Intervention for Illicit Drug Abuse: A Primary Survey of Primary Care Physicians and Psychiatrists.” *Archives of Internal Medicine.* 2001; 161: 248-251


Pruitt AW. Profile of an inpatient population with a history of illicit drug use. *J Community Health.* 1996; 17(1):3-12
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- [www.DrugWarFacts.org](http://www.DrugWarFacts.org)
- Medline Plus