

# OPIATES AND OPIOIDS

**NATURAL, SYNTHETIC, AND SEMI-SYNTHETIC**

# Opiate Initiative

- Initiative promoted by Dane County District Attorney Ismael Ozanne.
- Hired Opiate Substance Abuse Counselor to focus solely on Opiate-related offenses.
- Dane County District Attorney's Office / Deferred Prosecution Unit.

# Deferred Prosecution Unit

- Participants can divert out of formal criminal court process.
- Complete intake and sign contract whereby agreeing to several tasks to be completed by contract end or sooner.
- Goal is to not repeat criminal behavior, make positive changes, and in turn, the DA's Office agrees not to proceed with prosecution.
- Most participants are able to have charges dismissed.

# Opiate Participants

- My position from DOJ Grant.
- Contracts and expectations different than most other DPU Clients.
- Weekly face to face meetings, UA's, treatment goals proximal; minimum 8 written assignments.
- Combined counselor, case manager, monitor, referral agent, and support.
- A diversion program, third tier of Drug Court.

# Opiates

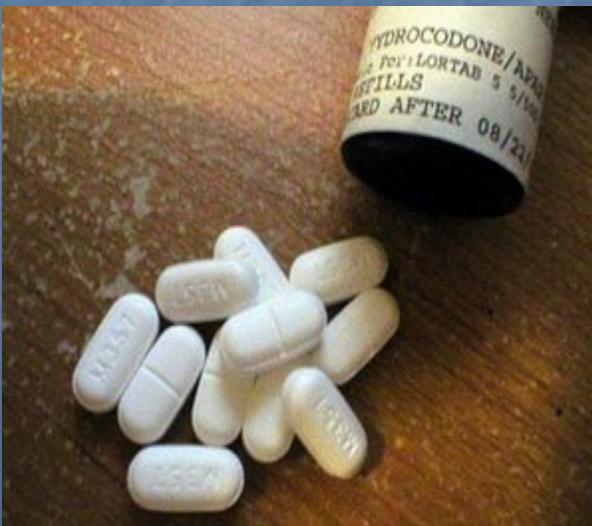
- Opiates are limited to the natural alkaloids found in the resin of the opium poppy. This includes morphine, codeine, thebaine, and of course, opium. In some definitions, the semi-synthetic substances that are directly from the opium poppy are also considered opiates, like heroin.
- The term, Opiates, therefore, is commonly used to refer to all opiate/opioid drugs.

# Opioids

- A drug which produces morphine-like activity, has the functional properties of an opiate.
- Semi-synthetics and synthetics.
- This includes a wide variety of “painkillers”, usually referred to today as Opioid Analgesics, replacing term narcotics and narcotic analgesic.
- Fully synthetic opioids created separate from natural opiates include methadone, meripidine, fentanyl, pethidine, tramadol.

# Opioids

- Semi-synthetic opioids created from natural opiates include hydrocodone, hydromorphone, oxycodone, oxymorphone, and buprenorphine, to name a few.
- Heroin is a semi-synthetic.



# Opioids

- Endogenous opioids are those that are produced naturally and stimulate our opioid receptors.
- Endorphin: a specific endogenous opioid.
- Endorphins and other endogenous opioids are proteins that act upon an opioid receptor.
- Our bodies produce its own opioids in times of stress/pain; enkephalins, dynorphins, endorphins.
- These are all natural and short acting.

# Abbreviated History Opiates USA

- An entire semester class could easily be devoted to the many facets of USA opium/opiate history; including international relationships; US policies, laws, & ramifications; production of drugs; distribution of drugs; changing sentiments of addictions and its impact; physician roles; and the impact upon addicts.



# Prescription Opioids/Analgesics

- Some painkillers stronger than others.
- The weaker end of the scale are drugs such as codeine and propoxyphene (Darvon)/end 11/10.
- For the higher end: Methadone, morphine, hydromorphone , fentanyl, oxymorphone, and Buprenorphine.
- Some opioids also have good cough-reflex agents like codeine and hydrocodone.

# Prescription Analgesics

- Some of these drugs retain a substantial degree of their efficacy when administered orally. Meperidine (Demerol), methadone, and oxycodone are prime examples.
- Yet other drugs, like morphine or hydromorphone, are greatly administered intravenously.
- Many time a prescriber will recommend two opioids: one for ongoing, chronic pain, and one for break-through pain.

# What about Oxycodone OC/OP?

- OxyContin (OC), ER Oxycodone, is a very powerful opioid analgesic. It came without acetaminophen, making the dose pure opioid; pills crushed to snort or shoot.
- It was changed to Oxycodone OP (Opana, 2010) Pill could not be crushed and abused in the same way as OC. A coating of polyethylene oxide polymer, rendering pill to not crush easily, and when mixed with liquid, it turns to a gel.
- Abusers have solvents to extract the oxy, or, a razor has been used to scrape off coating.

# Prescription Opioids

- According to the CDC, amount of prescription opioids sold to pharmacies, doctors and hospitals quadrupled from 1999 to 2010.
- According to American Society of Interventional Pain Physicians (ASIPP), US has 4.6% of the world population and consumes 80% of the world's oxycodone supply and 99% of Hydrocodone, as well as two-thirds of the world's illegal drugs.
- 14,800 fatal overdoses involving painkillers in US in 2008.

# Prescription Opioids

- According to the CDC, 46 people die every day as result of overdose of an opioid analgesic.
- Health care professionals wrote 259 million scripts for opioid analgesics in 2012.
- Some states have more analgesic scripts per person than others; WI falls into the low-average range with 76 analgesic scripts per 100 people. Highest was AL & TN with 143 per 100 people. (2012)
- Some states have reduced due to PDM's.

# ER/LA Opioid Analgesics REMS

- Extended-Release & Long-Acting Opioid Analgesics Risk Evaluation & Mitigation Strategy.
- FDA-Required REMS Program for serious drug risks.
- FDA wants to ensure the benefits of such drugs outweigh the risk of adverse consequences, therefore, REMS is strategy to better manage this potential.
- REMS: prescriber training on all ER/LA's; The Patient Counseling Document; Medication Guide

# Abuse Deterrent Technology

- FDA working on abuse deterrent formulations (ADF). Hosted public meeting 10/30/14-10/31/14 for development & regulations of abuse-deterrent opioid medications.
- Reformulated OxyContin CR, 2010; Nucynta ER (Tapentadol), 2011, and Opana ER, 2012.
- INTAC: Grunenthal's tamper-resistant formulation. Uses polyethylenoxide (PEO) in a Hot-melt extrusion process; no aversive add-ins.

# Other Deterrents

- Oxecta: an oxycodone product that is also hard to crush, same unmanagable gel when wet, and an added substance of sodium laurel sulfate, which irritates nasal passages.
- Adding naloxone to opiates, similar to Suboxone.
- Buprenorphine in transdermal patch so that it could not be extracted.
- Punch hole Buprenorphine, which signals counselor or case manager when a tablet taken.

# Forms of Ingestion

- Opioid pills can be taken orally, crushed and snorted, crushed and injected.
- Fentanyl Patches: cut open and eaten, sucked on, a cut section placed sublingually, or smoked.
- Poppy Seed Tea: brewed with “poppy straw” (seedpod and/or stem), usually ground; poppy seeds and grapefruit juice shaken together, reducing the pH level, optimal for morphine extraction.

# Long-Term Effects...

- Using opioids frequently and over a long time period can increase tolerance to the drug, meaning that higher doses, and/or more frequent doses of the medication must be taken to achieve the same effect. It is easy to develop physical dependence, causing a person to experience withdrawal symptoms when the drug is not present.
- Severe and chronic constipation.

# Opiate Withdrawal

- GI Upset: stomach cramping, nausea, vomiting, diarrhea.
- Tremor: slight observable to gross movements and muscle twitching.
- Sweating: chills or flushing, often notice facial moisture or sweat beads.
- Restlessness: difficulty sitting still, shifting movements of legs or arms.
- Anxiety: increased irritability, distraction of attention.

# Opiate Withdrawal

- Body Aches: self-reported aching of bones, joints, muscles; rubbing of joints or muscles.
- Yawning: pronounced or repeated yawning.
- Gooseflesh: mild to prominent piloerection of skin, or hairs standing up.
- Pupils: pupils moderately to prominently dilated.
- Pulse: pulse rate 90-120.
- COWS: Clinical Opiate Withdrawal Scale

# Medications to Assist

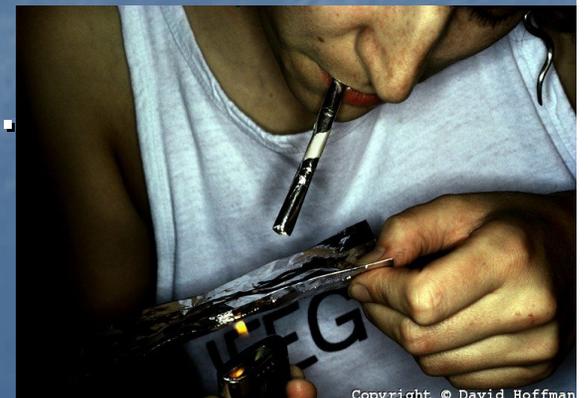
- Clonidine: ( HPB medicine) 0.1 mg, 1 tab every 6 hours: helps with cravings with opiates
- Ondansetron: (Zofran) 4 mgs., 2 tabs every 6 hours: helps prevent nausea
- Promethazine: (Phenergan) 25 mgs., every 4-6 hours: helps prevent nausea
- Loperamide: (Imodium AD) 2 mgs., as needed to treat diarrhea; helps rejuvenate bowels
- Dicyclomine: (Bentyl) 20 mgs., 1 tab TID: helps with Irritable Bowel
- Tizanidine: (Zanaflex) 2 mgs., 1 tab TID: muscle relaxant
- Ibuprofen: (Motrin) 200 mgs., 2 tabs every 6 hours, for soreness and pain
- Cetirizine: (Zyrtec) 5 & 10 mgs., liquid, chewables, for sleep.
- Diphenhydramine: (Benadryl) 25 mgs., as needed, assist with sleep
- Diphenhydramine (25 mgs.) & Acetaminophen (500 mgs.): Tylenol PM, assist with sleep
- Withdrawal Aid: Dietary Supplement; 27 herbs, a tapering pill schedule.
- Elimidrol: Dietary Supplement; ???
- Aloe Vera: can be used to treat hot flashes

# Heroin

- In 2011, 4.2 million Americans 12 and older used heroin at least once in their lives. It is estimated that approximately 23% of those who use heroin become addicted.
- Substance Abuse and Mental Health Administration (SAMHSA) est. 669,000 heroin addicts in US in 2012, up from 373,000 in 2007.
- Both young men and women, ages 18-26.

# Heroin

- Known by Smack, Mud, Dope, Horse, Junk, China White, Dragon, Diesel, and many others.
- A major CNS Depressant, a Schedule I Controlled Substance.
- The most fast-acting of the opiates: especially when injected, effects wear off 3-5 hours, or sooner.
- Cut with cocoa powder, brown sugar, face make-up, powder milk, and many other drugs.
- Snort, inject, skin-pop, chase the dragon.



# Heroin

- Is more lipid soluble than morphine, therefore penetrates the blood brain barrier faster.
- Thus, greater euphoria and more intense, due to a higher concentration.
- This includes its major metabolite: 6-MAM, (monoacetylmorphine)
- Perceived as a better opiate because of higher concentrations in less time.

# Heroin Overdoses

- US Attorney General, Eric Holder, released statistic of a 45% increase in heroin deaths from 2006-2010.
- Some states have astronomical increases: Maryland at 88% from 2011-2013.
- WI heroin related deaths in 2012 was 206; increased to 227 in 2013.
- 2011: Wisconsin state crime labs processed 579 cases in 37 counties; 2012: 648 cases in 56 counties
- 2013: 1,056 cases from 57 counties.

# Heroin Overdoses

- Increase in dose or purity.
- Diminished tolerance due to changes in use patterns, periods of abstinence, jail.
- Aspiration of vomit while unconscious.
- Allergic reaction to Quinine, too much Quinine.
- Place conditioning or environmental tolerance: use in same digs can display increased tolerance where repeated usages occur. Changing rituals/effects.
- Psychological states of mind can alter effects.

# Heroin



# Heroin and Opiate Overdoses

- Combined Drug Interactions (CDI)
- Sedatives/Depressants are deadly: Alcohol, Barbiturates and Benzodiazepines.
- Synergistic effects of these with opiates is profound.
- Long-term, and sometimes short-term, use affects cognition, interferes with memory, causing potential amnesia.
- Cocaine and Downers...speedballing.

# Opioid Intoxication

- Appearance is that the person is just sleeping.
- Number of breaths decrease and snoring may be louder, i.e., opioid overdose breathing!
- Opioids are potentially coma-producing.
- Death from opioid overdose the result of respiratory arrest, heart still beats, color blue!
- Tendency, as with alcohol, is to think they will "sleep it off".

# Dane County, WI

- 2009: 15 Opiate related deaths, mostly heroin; 81 overdoses.
- 2010: 23 Opiate related deaths; 97 overdoses.
- 2013: 32 heroin related deaths in first 10 months 2013, 30% increase from 2012.
- Several heroin addicts have overdosed multiple times, all the while knowing the risks of death.
- Dane Cty hospital visits for non-fatal overdoses increased from 114/2006; 271/2011; 292/2012.

# Heroin



# Heroin Production

- Biggest producer is Afghanistan.
- 2004: 87% of world's heroin.
- Cultivation of opium in Afghanistan remains huge business.
- Golden Triangle: Myanmar, Thailand, Vietnam, Laos, and Yunnan Province of China.



# Black Tar Heroin

- Mostly produced in Latin America and Mexico.
- Has varying degrees of purity due to a very crude refinement process (Wright-Beckett)
- Can be very sticky and gummy, or hard like coal.
- Injection more risky over time due to clogged needles and more rapid hardening of veins.



# Mexican Heroin Production

- For many decades, the crude and less-refined Mexican heroin was only a “poor man’s” substitute to Asian White, and later to Columbian heroin.
- During 1990’s, Mexico capitalized on opportunities, brought experts, chemists, and “consultants” from Asia to teach them the finer methods of growth and production.
- Heroin purity up



# Ritual of Heroin



# Ritual of Heroin

- Heroin brings up the sun, heroin brings in the dark.
- Heroin is not it; she is/he is.
- You make sure she/he is with you as you leave town, and your first thought in coming back.
- You are wrapped up with her/him in a warm blanket.
- A gentle and constant orgasm.

# Ritual of Heroin

- A false sense of security and protection, pain and fear dissipate.
- The very fast rush followed by tranquility, “on the nod”. Time slows, emotion goes.
- Cocooned and emotionally safe.
- Even months/years into recovery, in times of anxiety, stress, pressure, that cocoon appeals.
- Heroin is King/Queen: Inner circle connected by money, incongruence of caring/protection.

# The Face of Addiction

- The faces *of* addiction are the faces *from* addiction.
- They are filled with despair.
- Despair: from the Latin root, *sperare*, or hope. *De-sperare* is to lose all hope.
- It presents as a profound dispiritness.
- The faces show the hearts filled with perceived failure of character in a fertile darkness turned into despair.

# Face of Addiction

- **RESPONSIBILITY**
- **THE ABILITY TO RESPOND**
- Things continually fall off the map: It literally becomes a trail of loose ends, undone paperwork, lost or misplaced unpaid bills, forgotten appointments, a tornadic display moving toward depletion.

# In the Moment Profile...

- 61% female, age range 20-43.
- 39% male, age range 20-44.
- Many without valid transportation; DL issues, fines, no auto insurance, OAR's, unresolved OWI's, or no vehicle, etc.
- Many without consistent work, unable to get a job (CCAP), fired or quit, poor work history, little to no money. Many with significant debt
- A few that have been temporarily homeless.

# Assessing

- If you want to fully understand and embrace opiate addicts, standard screen/assess forms are not enough!
- There is a litany of questions to ask so as to better track where someone has been, and what are more prevalent risks than others.
- With the DPU Opiate Participants, assignment #1 is to answer 24 questions, which also spring further questions. Assessing is ongoing.



# Treatment

- Opioid Addiction is not going away any time too soon.
- We have an acute response to a chronic condition. Opioid & heroin addiction is recognized as a disease-not a defect of character.
- OST is proximal for many. It should not be “the all” of a treatment package, but should not be dismissed, excused, or forgotten due to many levels of opinion, belief, hardship, or politics.

# Treatment

- National Association of State Alcohol and Drug Abuse Directors (NASADAD): Consensus Statement on the Use of Medications in Treatment of Substance Use Disorders, January, 2013.
- May or may not be necessary, but should be considered and supported as viable treatment strategy in conjunction with other evidence-based practices.
- Other support: WHO, NIDA, NADCP.

# Treatment

- The three medications (following) should be made readily available and covered by both private and state plans, rather than overdose, relapse, injury, and death.
- Should not have dosing or time-specific limits, complex pre-auth or re-auth, minimal counseling coverage or debated rationale for additional coverage.
- Should not be prioritized by “fail first therapy.”

# Buprenorphine

- A semi-synthetic opioid, available as Suboxone, Subutex, and now Zubsolv. Schedule III controlled substance.
- Available as a sublingual tablet, sublingual film, and transdermal patch ( Butrans)
- Is a partial agonist/partial antagonist.  
(Agonist=same receptor response /  
Antagonist=prevents receptor response)
- A form of Opiate/Opioid Replacement Therapy.

# Buprenorphine

- Dose efficacy range is 8-16 mgs, with some needing 28-32 mgs. for full effect. Cost: \$20-32 a day.
- Suboxone contains the opioid buprenorphine and the opioid blocker, naloxone. When taken sublingually, it reduces cravings and “pushes” other opioids off the receptors. When snorted or used intravenously, it can precipitate withdrawal.
- Subutex does not contain naloxone.

# Buprenorphine

- The Drug Addiction Act of 2000 allowed for medical professionals to prescribe and manage. This represents a huge change from the Supreme Court rulings of 1914-1920, which stated that detox and “maintenance” were not forms of medical treatment.
- Any physician with the required hours training in buprenorphine can now prescribe and manage.



# Buprenorphine

- Physicians have been able to take 30 patients, and after one year, increase to 100.
- ASAM proposing to US Dep't of Health and Human Services, July, 2014, to increase prescribing patient limit for those physicians with certification in addiction medicine by ABAM, phased over two years, to 250 patients for year 1, and then 500 patient limit for year 2.
- Non-addiction physicians will require additional training.

# Methadone

- A synthetic opioid, full agonist, very potent, used in pain management and as an anti-addictive agent.
- Has long duration of action, elimination half-life of 15-60 hours, with the mean at 22 hours.
- It mitigates opioid withdrawal syndrome and blocks euphoric effects of drugs like heroin.
- Available in pill, sublingual, and liquid.



# Methadone Maintenance Therapy

- Wisconsin, 2008-2012, those enrolled in substance abuse treatment programs that offered Methadone increased 98.2%. (Medicaid statistic)
- Therapeutic doses vary but usually at least 75-150 mgs. daily. Tapering highly recommended to stop.
- Methadone is a Schedule II substance. Very strict federal regulations about the dispensing of methadone in clinics.
- Most clinics in phase system. Phase I requires coming in to dose daily. In Madison, it is between \$17.50-23.00 per day. (\$525-690 per month)

# Naltrexone

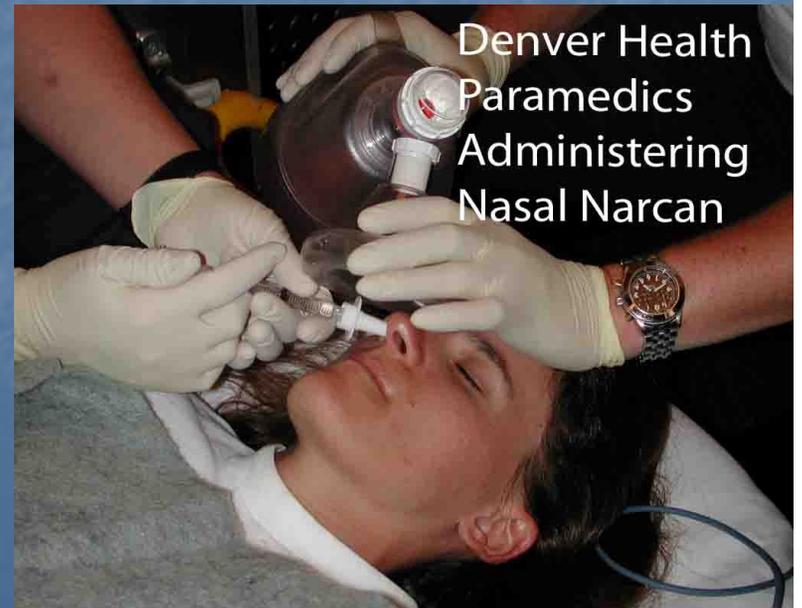
- First approved for opiate dependence 1984, then for alcohol dependence 1994.
- An opioid receptor antagonist.
- Vivitrol, naltrexone ER, approved for alcohol treatment 2006, and for the prevention of opiate relapse 2010.
- Vivitrol is a once per month intramuscular injection, 380 mgs., at about \$1100 per shot.
- A very distinct treatment option from opioid agonist treatments.

# Naltrexone

- Persons treated with Vivitrol must be off opioids for several days.
- This is problematic for many opiate abusers: cannot withstand the withdrawal sickness, using opportunities present, the waiting element very anxiety producing.
- This is a part of the treatment plan-not the end all. There should be connection to a viable counseling service/program prior to detox and continuing post-detox/Vivitrol initiation.

# Antidote for Overdose

- Antagonist: A chemical which blocks the action of a substance.
- Naloxone (Narcan): Is a prime example as it blocks opiate receptors, therefore reversing the effects of heroin.
- Is now readily available to other users and friends of users. Many addicts have a Narcan supply.



# Antidote for Overdose

- American Society of Addiction Medicine (ASAM) endorses OTC availability of naloxone.
- Police in New York announced in May, 2014, that 20,000 officers will be equipped with naloxone.
- Overdose prevention videos produced, i.e. Boston Public Health.  
<https://m.youtube.com/watch?v=Uq6AxrEY3Vk>

# One Step Up & Two Steps Back

- The FDA recommends rescheduling of Hydrocodone products from Schedule III to II, placing it in a category of more abuse potential.
- 8/18/14: Tramadol put into Schedule IV.
- At one in the same time, the FDA approves Zohydro ER. It is an extended-release opioid analgesic, oral formulation of hydrocodone bitartrate. There is no protective coating as with OP's; twice the hydrocodone than Vicodin.

# Toward Legislation

- December, 2011: Legal Action Center compiles “Legality of Denying Access to Medication Assisted Treatment In The Criminal Justice System”
- Residential Substance Abuse Treatment: Medication Assisted Treatment (MAT) for Offender Populations; an RSAT Training Tool, published through BJA/DOJ March, 2013.
- Advancing Access to Addiction Medications; [www.asam.org/docs/advocacy/Implications-for-Opiate-Addiction-Treatment](http://www.asam.org/docs/advocacy/Implications-for-Opiate-Addiction-Treatment)

# Legislation

- Bills introduced by Rep. John Nygren, R-Marquette, 2013 Assembly Bills 445, 446, 447, 448, 668, 701, and 702; signed 4/7/2014.
- Covers allowance for more first responders to carry Naloxone, grant immunity for drug possession charges to users who call 911 for overdose, expand collection of unwanted prescription drugs, create grants for diversion treatments, create opioid treatment in rural area

# Other...

- 3/27/14: Governor Deval Patrick, Mass., declares public health emergency, actions to address opiate addiction: dedicates \$20 million to enhance substance treatment; universally permit first responders to give Naloxone; prescription monitoring.
- 8/6/14: This action turns into law as Patrick signs substance abuse law, S.2142; an Act to Increase Opportunities for Long-Term Substance Abuse Recovery. Requires insurers to reimburse patients for addiction trmt. From licensed providers, and, removes prior auth for outpatient and up to 14 days inpatient, et.al.

# More

- 4/10/14: 16 senators sign letter to Attorney General Eric Holder, asking for DOJ to initiate multi-state program utilizing anti-addiction medications to support offender reentry.
- 5/13/14: Sen. Jen Flanagan, D-Leominster, Mass, chaired drug addiction committee, a vote to require insurance companies to cover AODA treatments w/no prior auth.

# Other

- The Senate unanimously approved this bill, 188/Senate/S2133, which addresses abuse deterrent drugs and strengthens the Prescription Monitoring Program.
- It also: Removes prior auth for Acute Treatment Services (Mass) Health Managed Care Entities, requiring coverage up to 15 days of clinical stabilization; same for commercial insurers, coverage up to 21 days.

# And...

- Directs the Health Policy Commission, alongside Dept. Public Health, to determine standards of evidence-based substance abuse treatments, a certification process for providers, and with those certs, insurance carriers prohibited from requiring prior auth, along with guaranteed reimbursement for those substance abuse services.
- There is also a review of the accessibility of substance abuse treatment and adequacy of insurance coverage.

# Also...

- June 18, 2014: Senators Carl Levin (D-MI) and Orrin Hatch (R-UT) hosted forum on Opioid Addiction; focused on obstacles that are making it difficult for patients to have access to Buprenorphine. Discussion of raising the 100 patient limit. ASAM weighs in, patient limits be lifted in graduated, thoughtful approach, with higher levels of training for docs.
- July, 2014: Congressman Bill Foster (D-IL), and Sean Maloney (D-NY) introduced legislation to increase inpatient treatment access for low-income and uninsured for heroin and opiate abuse: Expanding Opportunities for Recovery Act (H.R. 5339)

# Family Support

- Learn to Cope: [www.learn2cope.org](http://www.learn2cope.org)  
,Support for AFM of opiates.
- [www.addictinthefamily.org](http://www.addictinthefamily.org) (also a book)
- [www.patmoorefoundation.com](http://www.patmoorefoundation.com)
- Locally, [www.parentaddictionnetwork.org](http://www.parentaddictionnetwork.org)
- [www.recoveryresolutionsofwi.com](http://www.recoveryresolutionsofwi.com)

# TRANSITIONS

- Transitions are difficult...from one dance move to the next, from a martial arts posture to its emptying, from an old house to new digs, the ending of one relationship or the beginning of another, from one job position to the newer one, and from a drug-centered lifestyle to a world of recovery. The transition is the uncomfortable “middle”, that place that wants resolve where no quick resolve lies.

In Parting...

Take Care Out  
There...

and Peace.

For information related to substance use  
and abuse contact

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