Responding to the Opioid Crisis

Objectives

- Gain knowledge on
  - Current opioid epidemic
  - Historical perspective of opioids
  - The impact of opioids on the brain and body
  - Treatment responses to the epidemic
Opioids

Behind the Headlines

- El Chapo
- Open air market
- CDC report re: ER visits
- Naloxone inhaler - Kirk

CNN, BBC America, Al Jazeera America – add BBC clip

The Opioid Epidemic Facts

- CDC identifies drug overdose deaths from prescription opioids as exceeding deaths from automobile accidents
- 125,000 opioid overdose deaths in last ten years*
- Prescription opioids have become the fastest growing addiction in the U.S.
- Five-fold increase in treatment admissions for opioid dependence between 1998-2008
- Overdose deaths due to these medications have radically increased (from 3000 in 1999 to 15,000 in 2008)

*Director CDC – National Prescription Drug Abuse Summit, 2013
** Substance Abuse and Mental Health Services Administration: www.samhsa.gov
Centers for Disease Control and Prevention: www.cdc.gov
Opioid Facts

- In 2011, 219 million prescriptions for opioids were written in the U.S.
- From 2001 to 2008, narcotics prescriptions as a share of all drugs used to treat workplace injuries jumped 63%, according to insurance industry data
- Healthcare costs for those who abuse opioids are reported to be eight times higher than non abusers


History

Between 1850 – 1865 thousands of Chinese laborers immigrated to the U.S. and brought the habit of opium smoking with them.

Civil war soldiers became opioid dependent through medical treatment – referred to as “army disease” or “soldier’s disease”.

It was estimated that the total number of opium users in the U.S. in 1868 was 100,000.

Heroin was first synthesized in 1874 by the chemist, C.R. Alder Wright.

Many products, marketed for adults and children, were sold for pain and cough relief.

They all contained opium.
History

First commercial production in 1898 by the Bayer Pharmaceutical Company. Heinrich Dreser announced that tests confirmed heroin was ideal for treating bronchitis, emphysema, asthma, tuberculosis, and was a cure for opium and morphine dependence.

Types of Opiates/Opioids

Opiate
- A substance derived from opium

Opioid
- A substance with morphine-like actions, but not derived directly from the poppy plant

Opiates
- Morphine
- Codeine
- Heroin
- Hydrocodone
- Oxycodone

Semisynthetic
- Heroin
- Methadone
- Darvon
- Buprenorphine
- Demerol

Synthetic
- Fentanyl
- Methadone
- Darvon
- Buprenorphine
- Demerol

Opioid Antagonists
- Naloxone
- Naltrexone

Heroin

- 669,000 people used heroin in the past year
- There were 156,000 new users which is nearly double that of 2006
- The number of those meeting criteria for heroin dependence doubled from 214,000 in 2002 to 467,000 in 2012

Mexico has been the main supplier of heroin to the United States since the 1940's.
Marketing and Distribution

World Prescription Drug Market

Percent of Prescription

- Australia
- United States
- Africa
- Japan
- Middle East
- Latin America
- Southeast Asia/China
- Canada
- Europe
Opiate Medications

Besides alcohol and tobacco, the number one cause of preventable deaths in the U.S. is abuse of prescription drugs. Drug overdoses increased for the 11th consecutive year in 2010. Leading drug responsible for fatalities are prescription medications, most of which are opioids. Every year more than 16,000 people in the U.S. die from prescription opioid-related drug overdose, more than from heroin and cocaine combined.

The U.S. consumes 80% of the world’s supply of prescription opioid pain relievers.

More than 131 million prescriptions for hydrocodone (Vicodin®) and 30 million for oxycodone (OxyContin®) are written each year in the U.S.

- Hydrocodone
  - Hycodan®
  - Lorcet®
  - Lortab®
  - Tussionex®
  - Vicodan®
- Schedule II
- Potency equals morphine

Oxycodone
- Oxycontin®
  - 10, 20, 40, 80, 160 mg controlled release
- Percodan®
  - Combined with aspirin
- Percocet®
  - Combined with acetaminophen
- Schedule II
- Oral, crushed and sniffed or dissolved in water and injected bypasses the slow-release quality

Hydromorphone
- Dilaudid®
- Fentanyl
- Sublimaze®
  - IV anesthetic
- Duragesic®
  - Transdermal patch
- Actiq®
  - "Lollipop"
- 80 times the potency of morphine

Hydromorphone
- Dilaudid®
  - 2, 4, 8 mg tablets, rectal suppositories, and solution
- Fentanyl
  - 12, 16, 20, 32 mg transdermal
- Actiq®
  - "Lollipop"
Prescription Drug Abuse Can be Reduced by

- Educating physicians more thoroughly about prescription drug abuse and the drugs they prescribe
- Educating physicians about ways to minimize opioid use to control pain in the chronic sufferer
- Increasing the role of the pharmacist, who is the key to identifying drug interactions, inappropriate prescribing, and patients who fill multiple prescriptions
- Increasing communication among physicians and pharmacies to spot the abuser and the addict
- Making sure that the drugs prescribed to geriatric patients are not debilitating
- Requiring duplicate and triplicate prescriptions for scheduled drugs
- Curtailing drug advertising in consumer publications and on TV
- Encouraging patients to protect their prescription drugs and safely dispose of unused and expired drugs
- Integrated computer tracking of prescriptions for highly abused medications

Treatment personnel can get a strong indication of drug use from the size of pupils.
Opioid Withdrawal Symptoms

- Bone, joint, muscular pain
- Anxiety, insomnia
- Sweating, running nose, chills
- Stomach cramps, vomiting
- Diarrhea
- High blood pressure
- Excessive yawning, teary eyes

Negative Effects

- Soft tissue inflammation
- Abscesses
- Hepatitis C

Opiates and the Brain
Addiction is a Brain Disease

Increased deaths and relapse

So why isn’t the standard treatment approach as effective?

Medication Assisted Treatment
Why Use Medication

- Hazelden’s experience
  - Increased admissions for opioid dependence
    - Adults: 19% (2001) → 30% (2011)
    - Youth: 15% (2001) → 41% (2011)
  - Problems with ASA discharges, treatment retention
  - Unit milieu issues
  - Use of opioids during treatment
  - Increased incidence of death following treatment

What the Medication is Not

- Not in place of Twelve Step recovery or treatment
- Not medications alone

Pharmacotherapy of Opiate Dependence

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<thead>
<tr>
<th>Agent</th>
<th>Receptor</th>
<th>Action</th>
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<tbody>
<tr>
<td>Agonist – Methadone</td>
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<tr>
<td>Partial Agonist – Buprenorphine</td>
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<td>Weak Agonist – Tramadol</td>
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<tr>
<td>Antagonist – Naltrexone</td>
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**Methadone (Methadone Hydrochloride)**

- Synthetic opioid, first used as a pain reliever during World War II
- Most commonly ingested orally, but could be injected
- Links to opioid receptors with greater attraction than heroin
- Can be used to wean a person off opiates while reducing risk of withdrawal, but presents its own withdrawal risk
- Additive effect with sedatives and other opiates

**Methadone – Side Effects**

- With repeated use, tolerance and dependency can develop at a level similar to morphine although at a slower rate
- Withdrawal symptoms are possible and are similar to those of other opiates – they are less severe but last longer.
- Use can lead to sedation, respiratory depression, nausea, headaches, sleep disorders, and alteration of mood and mind
- Overdose is possible, especially due to later onset of effects

**Vivitrol®: Extended Release Injectable Naltrexone**

- Opioid receptor blocker (opioid antagonist)
- Administered by intramuscular injection, once a month
- Prevents binding of opioids to receptors, eliminating intoxication and reward
- Has been shown to reduce craving and relapse
- Has no abuse potential
Side Effects/Risks

- Vivitrol: Extended Release Injectable Naltrexone
  - Injection site pain, swelling, blisters, open wound
  - Liver enzyme abnormalities
  - Serious allergic reactions
  - Minor side effects: dizziness, depressed mood, nausea, tiredness, fatigue
  - Attempts to over-ride opioid receptor blockade

Suboxone®: Buprenorphine/Naloxone

- A partial opioid agonist, a maintenance treatment
- Administered sublingually (film) on a daily basis
- Binds to and activates opioid receptors, but not to the same degree as true opioid agonists
- Improves treatment retention, and reduces craving and relapse
- Illicit use and diversion are likely and there is a processes in place to prevent/combat this

Side Effects/Risks

- Suboxone: Buprenorphine/Naloxone
  - Respiratory depression (benzodiazepines)
  - Sleepiness, dizziness
  - Liver enzyme abnormalities
  - Serious allergic reactions
  - Minor side effects: headache, nausea, sweating
  - Simultaneous use of other opioids
Conclusions

- Opiate use and abuse has been growing for the better part of the last two decades but has reached epidemic proportions recently.
- Treatment needs to be specific to address the psychological, sociological, and spiritual components of addiction to this group of substances. However, it must also specifically address the significant physical risks.
- Adding medication assisted treatment (as needed) and long-term follow up to standard treatment and active Twelve Step involvement has produced some positive results.

Links to Resource Information

- COR12 – www.hazelden.org/web/public/medication_assistance.page
- Medication Assisted Treatment YouTube – www.youtube.com/watch?v=9t1MuigJ8eY