

**COVID-19 and the Opioid Crisis:  
When a pandemic and an epidemic collide**

**ARNOLD M. WASHTON, PH.D.**  
**Addiction Psychologist**

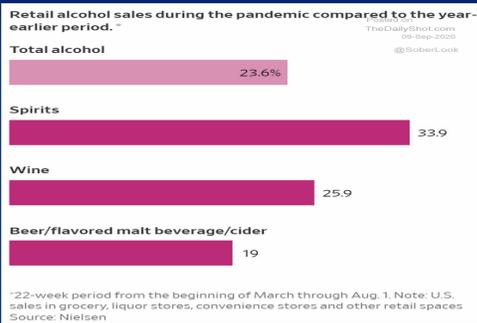
The Washton Group  
Princeton NJ and NY NY

**thewashtongroup.com**

**Today's Topics**

- What is the scope of the opioid crisis?
- What has been the impact of COVID-19 on addiction and its treatment
- How did we get here?
- What are opioids?
- Why are they so addictive?
- What treatments are available?
- What can we do about it?

**Spike in Alcohol Sales**



**Impact of COVID on Opioid Epidemic**

- Increased rates of use, addiction, relapse, and overdose deaths
- Estimated 32% increase in use of opioids, cocaine, etc., and 18% increase in overdose deaths
- Upsurge in mental health problems (e.g., anxiety, depression) leading to upsurge in use of alcohol and drugs as "self-medication"
- Boredom, lack of distractions, entertainment
- Anxiety, fears, uncertainty, worry, grief
- Loss of jobs, careers, income

### Impact of COVID on Opioid Epidemic

- Social isolation, reduced social supports
- Reluctance to seek treatment fearing exposure
- Decreased access to treatment
- Degradation in available support group meetings from in-person to online

### Treatment Innovations Spurred by Pandemic

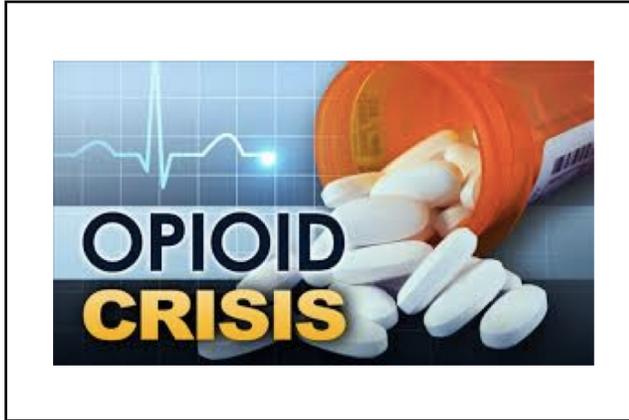
- Teletherapy
- Extends the reach and availability of services
- Eliminates commuting to offices/clinics
- Eliminates fears of being seen entering an addiction treatment program
- Despite advantages many people miss the in-person connection with clinician and others
- Expanded insurance coverage for telehealth

### OPIOID USE IN THE U.S.

- The U.S. represents 5% of the world's population
- We consume 80% of the world's prescription opioids
- The current "opioid epidemic" is clearly (sadly) an **American** phenomenon

### PRESCRIPTION OPIOIDS

- Most people who take opioid painkillers as medically prescribed do not become addicted
- Effective short-term treatment for pain (e.g., post-surgery or post-injury)
- Prolonged use for chronic pain poses a high risk of developing both physical and psychological dependence, especially in vulnerable individuals
- Physical dependence typically develops after approximately 4-6 weeks of daily use



## Scope of the Opioid Epidemic

Opioid Use, Abuse, & Overdose Deaths

(Based on pre-COVID data)

### Opioid Epidemic

- Each year more than 214 million prescriptions are written for opioid pain medication—a rate of 66.5 prescriptions per 100 people.
- As many as 1 in 5 people receive prescription opioids on a long-term basis for non-cancer pain in primary care settings.
- More than 11.5 million people abused prescription opioids (took in larger doses or more frequently than prescribed)

### Opioid Use Problems

- Over 2.1 million Americans have an opioid use disorder
- Over 11 million abuse Rx opioids
- Over 1 million are addicted to heroin

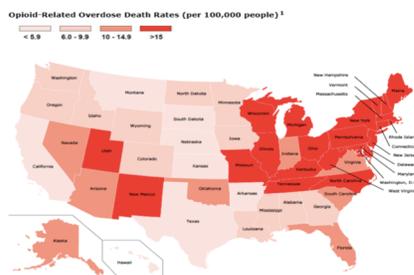
### Opioid Epidemic

- 20-30% of patients prescribed opioids for chronic pain will misuse them
- 8-12% of these individuals will develop a clinically-significant opioid use problem
- 4-6% who develop a problem with prescription opioids will transition to heroin (cheaper, easier to get)

### Opioid Epidemic

- The CDC estimates that the total "economic burden" of prescription opioid misuse alone in the United States is **\$78.5 billion\*** a year, including the costs of healthcare, lost productivity, addiction treatment, and criminal justice involvement.  
\*pre-COVID

### Opioid Use by State



### Opioid Overdose Deaths

- Opioid overdose deaths have more than **tripled** over the past 15 years
- From 1999-2016, more than **350,000** people died from an opioid overdose involving any opioid, including both prescription and illicit opioids.

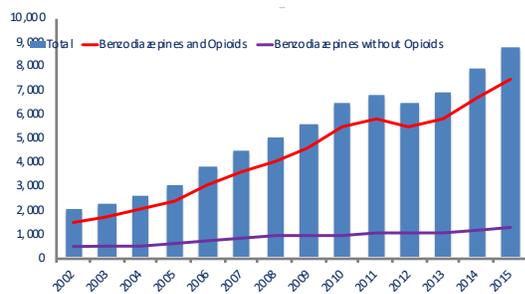
### Opioid Overdose Deaths

- Every day, more than 1,000 people in the U.S. are treated in emergency departments for overdose and other opioid-related medical problems
- Every day, more than 115 people die from an opioid overdose
- Last year, 42,249 people died from opioid overdose

### Opioid Overdose Deaths

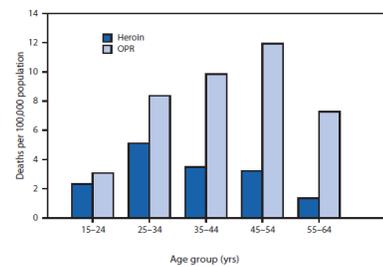
- These fatal overdoses involve heroin, prescription opioids, and illicitly-manufactured opioids such as fentanyl
- Rx opioids account for 40% of all overdoses
- Combining opioids with other drugs that suppress breathing--alcohol, tranquilizers, sleeping pills, and/or other sedatives--markedly increases the possibility of fatal overdose

#### Opioid involvement in benzodiazepine overdose



Source: National Center for Health Statistics, CDC Wonder

#### Overdoses DEATHS from heroin or prescription opioid pain relievers (OPRs) by age group



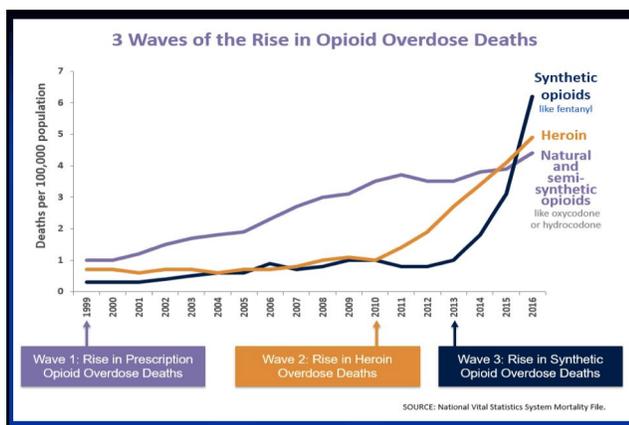
SOURCE: CDC, Increases in Heroin Overdose Deaths

20

**The dramatic rise in opioid overdose deaths over the past 15 years has occurred in 3 distinct waves**

**3 Waves of Opioid Overdose Deaths**

- 1st wave began in the 1990s with increased prescribing of **opioid painkillers**
- 2<sup>nd</sup> wave began in 2010 with sharp increases in **heroin-related** overdoses
- 3rd wave began in 2013, with sharp rise in overdose deaths involving illicitly manufactured and highly potent opioids such as **fentanyl** often mixed with heroin, counterfeit pills, and cocaine



**How did we get here?**

Factors Contributing to the Opioid Epidemic

- Overprescribing of opioid analgesics
- Physicians encouraged by pharmaceutical companies and the medical community at large to prescribe opioids to relieve both short and long-term pain and prevent unnecessary suffering
- Pain had been historically under-treated

### How did we get here?

#### Factors Contributing to the Opioid Epidemic

- Aggressive marketing by pharmaceutical manufacturers including claims that OxyContin (Purdue Pharma) was less addictive and safer than other opioids-- which turned out to be entirely untrue
- Widespread diversion of Rx opioids as supplies of these drugs flooded the market

### How did we get here?

#### Factors Contributing to the Opioid Epidemic

- Subsequent crackdown on overprescribing practices and closing of "prescription mills" reduced supplies and increased prices of Rx opioids which encouraged users to switch to cheaper more readily available **heroin**
- More potent supplies of heroin flooded the illicit market along with illicitly manufactured drugs like **fentanyl**- 20-30 times more potent than heroin

### Stronger, More Dangerous Opioids

- Drug buyers don't know what they're buying
  - Old heroin: Columbian, ~10% purity
  - New heroin: Mexican, ~40% purity
- Fentanyl:
  - Synthetic opioid made in chemistry labs
  - Smuggled from Mexico and China
  - 20 to 30 times the strength of heroin
  - Sometimes added to heroin or stamped into pills
  - Unknown amounts mixed in heroin or pills contribute to increased risk of overdose

### Lethal Doses of Heroin & Fentanyl





## What are opioids?

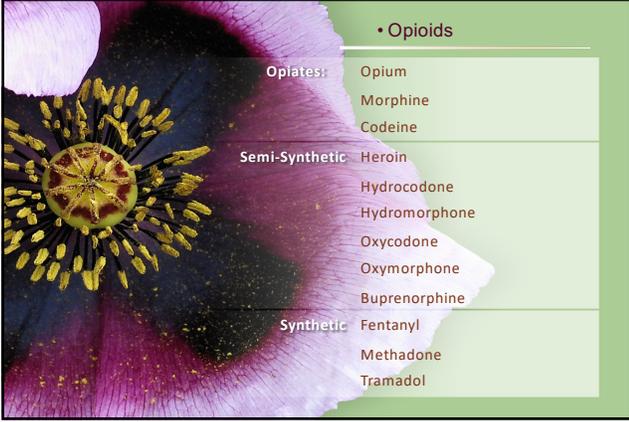
### Classes of Psychoactive Substances

- **Opioids**
- CNS Depressants (Alcohol & Sedatives)
- CNS Stimulants
- Cannabinoids
- Hallucinogens (Psychedelics)
- Other Drugs

### Poppy Plant

*Papaver somniferum*





• Opioids	
Opiates:	Opium Morphine Codeine
Semi-Synthetic:	Heroin Hydrocodone Hydromorphone Oxycodone Oxymorphone Buprenorphine
Synthetic:	Fentanyl Methadone Tramadol

- ### Opioids ("Narcotics")
- Opium
  - Morphine
  - Heroin
  - Methadone
  - Prescription Painkillers
    - Oxycodone, Hydrocodone, OxyContin, Codeine, Fentanyl, Tramadol

- ### OPIOIDS
- Narcotic analgesics (painkillers)
  - Most potent painkillers known to man
  - Morphine is the standard for all opioid drugs
  - Opioids include
    - Natural derivatives from the opium poppy plant (*papaver somniferum*) known as "opiates"
    - Synthetic and semi-synthetic opioids with morphine-like effects

- ### Most Commonly-Prescribed Opioids
- Hydrocodone (Vicodin)
  - Oxycodone (Percocet, OxyContin)
  - Hydromorphone (Dilaudid)
  - Fentanyl (Duragesic patches)
  - Morphine (Avinza, Kadian)



### Kratom

- An herbal supplement derived from a plant grown in South East Asia (Thailand, Malaysia, Indonesia)
- Not technically an "Opioid" but may as well be
- Not illegal or regulated in the U.S.
- Can be purchased over the internet or in retail stores (e.g., head shops, tobacco stores, convenience stores,

### Kratom

- Contains substances that stimulate opioid receptors
- Produces classical profile of opioid effects (e.g., analgesia, euphoria)
- Used medically in Asia as treatment for opioid withdrawal
- At high doses can cause fatal overdose
- Can substitute for other opioids

### Kratom Powder & Capsules



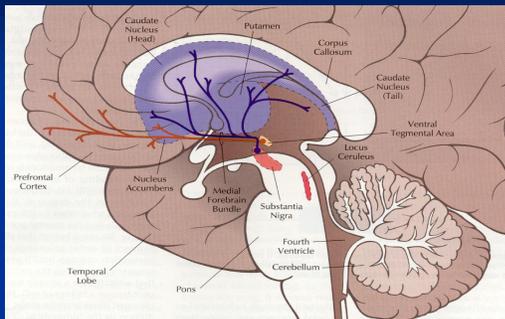
### Kratom Tea



### Opioid Effects

- Stimulate opioid (*mu*) receptors
- Euphoria
- Analgesia
- Cough suppression
- Respiratory depression (potentially lethal)
- Pupillary constriction (meiosis)
- Constipation
- Histamine release (itching, bronchial constriction)

### Mu receptors in Brain Reward Pathways



### Opioid Effects

- Stress relief, euphoria
- Sedation or activation
- Anxiolytic
- Antidepressant
- Antipsychotic

### Why Are Opioids So Appealing and Addictive?

- Emotional anesthesia: offer the prospect of life without psychic pain, negative emotions, bad moods
- Enhanced energy and motivation, relieves boredom
- Not easily detected: no odor, no stumbling, no slurred speech (except a high doses)
- Rapid tolerance and development of physical dependence

### Opioid Tolerance & Physical Dependence

Both tolerance and physical dependence are physiological adaptations to chronic opioid use



#### Tolerance:

- ❖ Increasing doses needed to produce the same effects



#### Physical Dependence:

- ❖ Withdrawal syndrome triggered by abrupt dose reduction or cessation

### Acute Withdrawal

- Pupillary dilation
- Lacrimation (watery eyes)
- Rhinorrhea (runny nose)
- Muscle spasms, Yawning, Sweating, Chills,
- Stomach Cramps, Diarrhea, Vomiting
- Restlessness, Anxiety, Irritability
- Insomnia

### Treatment for Opioid Dependence

- Medical (pharmacological)
- Psychological (behavioral)
- Combination works best
- Inpatient and outpatient programs

### Medications

- Naloxone (*Narcan*) to reverse opioid overdose
- Naltrexone (*Trexan*, *Vivitrol*) to prevent relapse
- Buprenorphine (*Suboxone*) for detox, stabilization, and maintenance
- Methadone (*Dolophine*) for detox, stabilization, maintenance

### Naloxone (Narcan) Reverses opioid overdose



Nasal with separate atomizer "Multi-step"



Narcan Nasal Spray "Single-Step"



Auto-injector



Intramuscular Injection

### Naltrexone Tablets (*Trexan*)



### 30-Day Naltrexone Injection (*Vivitrol*)



### Clinical Uses of Buprenorphine

- Stabilization
- Detoxification (Tapering)
- Substitution (Maintenance)

### Buprenorphine (sublingual)

- **Suboxone** strips/film (buprenorphine + naloxone)
- **Zubsolv** tablets (buprenorphine + naloxone)
- **Subutex** tablets (buprenorphine only)



### Suboxone Strips/Film



### Buprenorphine Sublingual Tablets



### Clinical Advantages of Buprenorphine

- Can be Rx by office-based MDs, dispensed at local pharmacies
- High rate of patient acceptance
- Cannot overdose (“ceiling effect”) unless combined with high-dose CNS depressants
- Virtually no opioid-induced “high” after the first 2-3 doses, if at all
- Has impressive antianxiety and antidepressant effects, induces feelings of “normality”

### Clinical Advantages of Buprenorphine

- Studies document high treatment success rates (improved psychosocial functioning) and reduced overdose death rates including in adolescents and young adults
- Both relapse and overdose death rates increase by more than 50% when buprenorphine is discontinued prematurely (i.e., less than 6-12 months in many cases)

### Behavioral Approaches

- **Motivational Therapy**
  - Engage in treatment
  - Enhance readiness for change
- **Cognitive-Behavioral Therapy**
  - Enhance coping skills
  - Learn relapse prevention strategies
  - Learn emotion regulation skills

### Behavioral Approaches

- **Psychodynamic Therapy**
  - Identify and address underlying issues
  - Self-esteem, traumas, relationship problems
- **12-Step Approach**
  - Based on disease model of addiction
  - AA, NA, Alanon, Naranon

### **Public Health Approaches**

- Improve availability of treatment
- Improve availability of overdose-reversing drugs (Narcan)
- Promote safer prescribing practices
- Support cutting-edge research on treatment of pain and addiction
- Advance better practices for pain management