The Opioid Epidemic & SBIRT

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TCHP Grand Rounds
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Learning Objectives

• Discuss the epidemiology of opioid epidemic nationally and locally.

• Describe effective healthcare and public health responses to the opioid epidemic.
Terminology

AUD: alcohol use disorder
OUD: opioid use disorder
TUD: tobacco use disorder
SUD: substance use disorder
MAT: medication assisted treatment
FASD: fetal alcohol spectrum disorders

AEP: alcohol exposed pregnancy
SEP: substance exposed pregnancy
TEP: tobacco exposed pregnancy
FAS: fetal alcohol syndrome
NAS: neonatal abstinence syndrome
Houston is a Hub

Large quantities of narcotics come from the southern border area to Houston for transit to other areas nationwide.

Heroin
Methamphetamines
Cocaine
Marijuana
Synthetics (Opioids, Kush, Bath Salts)

Drugs in Houston are cheap (compared to the rest of the country). Houston has not experienced the tremendous number of heroin OD cases like in the northeastern states, but we have counterfeit prescription pills made with fentanyl (and everything else). We are also flooded with diverted (but genuine) pharmaceutical pills. We are just starting to see powdered fentanyl sold as heroin.
Where do we find fentanyl
Fentanyl....the game changer

- January 2017 HPD Narcotics Seized 1 kilo of fentanyl
- May 2017 Pasadena PD Narcotics seized 8 kilos
- July 2017 HPD Narcotics seized 3 kilos
- July 2017 HPD Narcotics seized 13 kilos

First time fentanyl really came on HPD radar:
December 22, 2015
Patrol officer asked for assistance from narcotics with a Hit and Run investigation.
- 10 grams of butyryl fentanyl (25,000 doses)
- 27 grams 25I-NBOMe (680 doses synthetic LSD)
- 1759 grams of alprazolam (7500 doses of Xanax)
- 1 stolen pistol, 1 machine gun, 2 warrants
2017 Fatal Overdoses in Harris County

- 252 Cocaine
- 147 Heroin
- 110 Methamphetamines
- 59 Fentanyl analogs
- 33 Methadone (3 no other drugs present)
- 23 Alcohol (with no drugs present)
- 29 PCP (10 with no other drugs present)
- 14 Tramadol
- 13 Promethazine
- 7 Freon/propellant (R-152a, also used in “canned air”)
- 6 Synthetic cannabinoids “Kush” (5 no drugs/alcohol present)
- 5 U-47700
- 4 Diphenhydramine (no other drugs/alcohol present)
- 3 Buprenorphine
- 3 acetaminophen (no other drugs/alcohol present)

Half of deaths due to overdose involve 2 or more drugs
## Fatal Overdoses in Harris County

<table>
<thead>
<tr>
<th></th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heroin</td>
<td>49</td>
<td>68</td>
<td>79</td>
<td>96</td>
<td>147</td>
</tr>
<tr>
<td>Fentanyl</td>
<td>19</td>
<td>17</td>
<td>16</td>
<td>25</td>
<td>59</td>
</tr>
<tr>
<td>All opioids</td>
<td>234</td>
<td>236</td>
<td>255</td>
<td>270</td>
<td>303</td>
</tr>
<tr>
<td>Cocaine</td>
<td>143</td>
<td>128</td>
<td>170</td>
<td>237</td>
<td>250</td>
</tr>
</tbody>
</table>

Half of deaths due to overdose involve 2 or more drugs.
Multidrug toxicity is very common

- **2-2-17 (WF 48)** Drowning and combined toxic effects of ethanol, alprazolam, clonazepam, diazepam, temazepam, bupropion, methorphan, doxepin, fluoxetine, hydroxyzine, carisoprodol and oxycodone

- **2-19-17 (WF25)** Combined drug toxicities, including alpha-pyrrolidinopropiophenone (synthetic cathinone), clonazepam, lorazepam, cocaine, etizolam, methamphetamine, methylenedioxymethamphetamine, furanyl fentanyl, para-fluorobutyrylfentanyl/para-fluoroisobutyrylfentanyl, flubromazepam, delorazepam, and diclazepam

- **10-16-17 (HM 33)** Combined alprazolam, cocaine, fentanyl, heroin, phencyclidine, methamphetamine, and tramadol toxicities
Fatal opioid OD’s January – June 2017
Fatal opioid OD’s July – December 2017
What we’re seeing in Houston

- powder (100 g)
- tablets with A215 logo
- tablets with GG249 logo
- crystalline powder (0.08 g)
- white powder (2 g)
- tablets with GG249 logo
- chunk substance/powder (40 g)
- tablets with V 4812 logo
- tablets with V 4812 logo
- tablets with V 3601 logo
- tablets with Percocet 10/325 logo
- tablets with smudged logo
- tablets with G3722 logo
- bottle with liquid
- tablets with WATSON 853 logo
- spoon with residue
- tablet with C230 logo
- tablets with R039 logo
- powder (0.60 g) ; syringe
- powder (0.34 g)
- powder (0.24 g)
- powder (0.62 g)
- tablets with C230 logo
- tablets with M30 logo
- powder (0.28 g)

- U-47700
- oxycodone
- alprazolam
- meth / fentanyl
- meth
- alprazolam
- heroin
- oxycodone
- oxycodone
- hydrocodone
- oxycodone
- oxycodone
- alprazolam
- heroin
- hydrocodone
- heroin
- oxycodone
- fentanyl
- fentanyl
- heroin
- heroin
- oxycodone
- meth / fentanyl
- U-47700
- Fentanyl
- Furanylfentanyl, U47700, U49900, MMB-CHMICA
- Carfentanil
- Furanyl fentanyl
- U-47700
- Heroin, fentanyl
- Fentanyl, U-47700
- Fentanyl, phenylfentanyl, U-47700
- U-47700
- Fentanyl, phenylfentanyl
- U-47700
- U-47700
- Heroin, fentanyl
- Fentanyl
- cocaine, heroin, fentanyl
- Methoxy PCP, alprazolam, methoxyacetyl fentanyl
- Methoxy PCP, alprazolam, methoxyacetyl fentanyl
- Heroin, fentanyl
- Fentanyl
- Fentanyl
- Fentanyl
- ANPP (fentanyl precursor)
- U-47700
- Fentanyl
- Fentanyl
Recovered counterfeit drugs
Typical illicit pill operation
Typical illicit pill operation
Whatever you want them to be

Hydrocodone  Assorted Rx drugs  Morphine or OxyContin

Mario  Hello Kitty  Xanex
Houston Comprehensive Opioid Abuse Program

- Who COAP is
  - HPD
  - HFD
  - UT Health Science Center
  - Houston Recovery Center
Houston Comprehensive Opioid Abuse Program

Outcome Evaluation

- Victim/Patient Follow-up
- Information Sharing and Surveillance
- Counseling, Social Work, and Peer Recovery
- Access to Narcan
- Medication-Assisted Drug Treatment
- Outreach to Users/Victim Services
• Lieutenant Steve Casko  
  281-796-3884  
  Stephen.Casko@HoustonPolice.org

• Lieutenant Rachel Garza  
  832-977-0142  
  Rachel.Garza@HoustonPolice.org

• Senior Police Officer Erik ter Meulen  
  713-594-0279  
  Erik.Termeulen@HoustonPolice.org
What is popular in Houston?

GREAT QUESTION!

- Methamphetamines ("Ice" and liquid form)
- Marijuana
- Synthetic Cannabinoids ("Kush", "bath salts")
- Cocaine/Crack Cocaine
- Opioids (Heroin, Real/Fake Prescription Pills, Fentanyl)

Lots of people use many substances

(HIDTA 2018 Threat Assessment, 2018)

The Deadly Counterfeit Drug Trade Thrives in Texas

The country has seen an upsurge in counterfeit prescription pills, masquerading as oxycodone and Xanax. These pills are disguised as real medications but made with deadly fentanyl or its even deadlier relatives, and even a fraction of a single pill can mean death in less than 30 minutes of ingesting it.

Fentanyl is a serious threat to Texas. In 2017, after San Antonio police had been seizing fake pills for 3 years, the DEA shut down a San Antonio and Houston-based trafficking operation, seizing pill presses, raw fentanyl, 1 kilogram of fentanyl-laced oxycodone pills, and 15 kilograms of fake Xanax and Adderall laced with methamphetamine.

Texans have suffered because of counterfeit medical treatments.

243 different medical practices in Texas have been implicated in buying from black market distributors that sold counterfeit cancer treatments and other therapies. Families who have lost relatives to cancer will never know if their loved ones were given real medication or fake, and if they died from a lack of treatment.

Texas has been the site of five major counterfeit drug prosecutions, convicting criminals who sold counterfeit Xanax, Valium, alprazolam, Cialis, Viagra, Suboxone and Adderall.
among pregnant women?

• The rate of infants affected by drugs in utero has doubled in Texas since the mid 2000’s
• Poly-substance use high
• ~35% of prenatal drug exposure cases have a Neonatal Abstinence Syndrome (NAS) diagnosis indicating opioid use
• Screening & testing practices, reporting not uniform
Statewide Prenatal Drug Exposure, 2016

2016 Rates of Prenatal Drug Exposure
Per 1,000 births

<table>
<thead>
<tr>
<th>County</th>
<th>Drug Exposure (no NAS)</th>
<th>NAS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bexar</td>
<td>9.55</td>
<td>9.1</td>
</tr>
<tr>
<td>Tarrant</td>
<td>6.24</td>
<td>2.85</td>
</tr>
<tr>
<td>Dallas</td>
<td>7.34</td>
<td>2.79</td>
</tr>
<tr>
<td>Harris</td>
<td>5.50</td>
<td>1.66</td>
</tr>
<tr>
<td>Texas</td>
<td>6.90</td>
<td>2.48</td>
</tr>
</tbody>
</table>

Note: Drug Exposure includes both Drug Exposure (no NAS) and NAS.
Houston had more deaths in 2016 due to overdose than 21 STATES
Opioid Involved

Not Opioid Involved

Overall SVI
- > 0.66 – 1 (High vulnerability)
- > 0.33 – 0.66
- 0 – 0.33 (Low vulnerability)
Opioid Involved Deaths of Women of Childbearing Age

<table>
<thead>
<tr>
<th>Year</th>
<th>Deaths</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>45</td>
</tr>
<tr>
<td>2014</td>
<td>39</td>
</tr>
<tr>
<td>2015</td>
<td>36</td>
</tr>
<tr>
<td>2016</td>
<td>45</td>
</tr>
<tr>
<td>2017</td>
<td>60 (25%)</td>
</tr>
</tbody>
</table>

Overall SVI
- > 0.66 - 1 (High vulnerability)
- > 0.33 - 0.66
- 0 - 0.33
Prenatal Drug Exposure and NAS Rates for Harris County, 2015-2017

Communities with non-NAS drug exposures only slightly correlated with NAS communities.

Interpretation: For pregnant women, opioid use occurring in different areas than other drug use.

Meaning our outreach efforts may need to shift to new locations.
Discrepancy between Overdose deaths and prenatal drug exposure

Rate of infants with prenatal drug exposure (per 1,000 births) and number of overdoses to women of child bearing age, (2015-2017)

Rate of infants with NAS (per 1,000 births) and number of opioid related overdoses to women of child bearing age, (2015-2017)
CONTACT INFO:
Beth Van Horne
BETHANIE.VANHORNE@BCM.EDU
832-822-1940
The Opioid Epidemic

- **Overdose is THE leading cause of death for people under 50 in the US**
- US overdose deaths in just 2016 (64K) exceeded:
  - total US casualties during the entire Vietnam War (58K)
  - AIDS-related deaths in 1995, worst year of AIDS crisis, (51K)
  - Peak year, 1991, of US homicides, (25K)
  - Suicides, rising for past 30 years (to 44K in 2015)
- For the first time in modern US history, *life expectancy decreasing* for younger generations, primarily driven by overdose deaths
- US overdose deaths in 2017 a record high of 72K
Death rate for U.S. non-Hispanic whites (USW), U.S. Hispanics and six comparison countries, aged 45-54.

(Source: Proceedings of the National Academy of Sciences.)

(Source: Proceedings of the National Academy of Sciences.)
The Perinatal Opioid epidemic

- 1999: 1.5 in 1000 deliveries mother with OUD
- 2014: 6.5 in 1000 deliveries mother with OUD
- Overdose is now the leading cause of perinatal mortality for women
- Every 25 minutes another newborn is diagnosed with Neonatal Abstinence Syndrome (NAS)
- 2017 National Survey on Drug Use and Health (NSDUH):
  - Past Month Opioid Misuse in Women 15-44yo:
    - Pregnant: 1.2% 2016 INCREASED to 1.4% 2017
    - Non pregnant: 1.7% 2016 decreased to 1.6% 2017
FIGURE 2. Rates* of opioid pain reliever (OPR) overdose death, OPR treatment admissions, and kilograms of OPR sold --- United States, 1999--2010
Overdose Deaths Involving Opioids, by Type of Opioid, United States, 2000-2015

decreased opioid RX is NOT Enough
The Synthetics

- Heroin: 2 MEQ

- U-47000 aka ‘Pink’: 10 MEQ

- Fentanyl: 100 MEQ lethal dose 2mg

- Carfentanyl: 100,000 MEQ lethal dose 20 micrograms

- [$1000 pill press (5K pills/hr) + $250 die molds for oxycontin and xanax + $100 fentanyl 25gm + $900 other chemicals = $2250] >>> [1mg fentanyl per pill = 25K pills at $10 per pill = $250,000]
Funding and Resources

• $27.4 million to Texas from US HHS for (largely) OUD treatment services
  • Decreased waiting lists for methadone maintenance at OTPs (opioid treatment providers)
• Private/public insurance, ‘Goldcard’, Self pay
• Buprenorphine MAT in Harris Health System
• Buprenorphine MAT at some FQHCs
• State-funded detox: Cenikor, Santa Maria Hostel, Right Step
• Houston Recovery Center aka Sobering Center
Don’t forget the ‘legal stuff’

• Alcohol use is related to more than 105,000 deaths every year in the US.
• Tobacco use causes four times as many deaths as alcohol: more than 430,000 deaths each year.
The effects of family SUDs on children

Live with $\geq$ one adult with a SUD

Exposed to alcohol problems in families
CDC Guidelines 2016

• Non pharmacologic therapies and non opioid pharmacologic therapies preferred
• Risk assessment tools not so helpful: risky drugs not (just) risky patients
• 50mg ME+ = high dose, avoid 90mg ME+
• Opioids for acute pain: 3 days typically sufficient

• 52 pages: READ PAGE 16
VA/DOD Guidelines 2017

- Avoid long-term opioid therapy to treat chronic pain...
- ...esp if: untreated SUD, concurrent benzo use, age < 30 yo
- No ‘safe’ dose
- Routine suicide risk assessment at initiation and ongoing
- Avoid 90mg ME+ dosing for chronic pain
- Offer OEND: overdose education and naloxone distribution
- MAT for patients with OUD and chronic pain

198 Page Full Report
30 Page Clinician Summary
7 Page ‘Pocket Card’
Managing acute pain to Prevent Progression to Chronic PAIN/OUD

• 3 to 7 days maximum needed opioid script for most acute, painful conditions

• 30 day script leads to increased disability and increased likelihood of ongoing opioid use at 6 months and beyond

• Acetaminophen and ibuprofen (both given orally) as efficacious as oral opioid analgesics (with or without acetaminophen) for acute orthopedic injury in the EC setting

Prescription Drug Monitoring

- State based, electronic databases
- Usability and access varies by state
- Some states share data (eg. Louisiana and Texas)
- Limitations on who can access and need for patient consent to access coming?
- Need for national database
- Border state issues
- Mandatory in Texas with each controlled substance script by September 2019

- https://texas.pmpaware.net/login
Harm Reduction – Naloxone

$$$$$$

- Ezvio
- Auto-injector SC or IM
- 0.4 mg dose
- Visual+voice instructions
- Press on outer thigh for 5 sec (over clothes ok)
- Compact (3 ½ x 2 x ½)
- Retractable needle

$-$-$$$

Naloxone (Narcan)
IM/SC or intranasal
Opioid Use Disorder (OUD) Treatment

- Methadone maintenance: licensed Opioid Treatment Program (OTP)
- Buprenorphine maintenance
- Agonist MAT = GOLD STANDARD TX OF OUD IN PREGNANCY
- Opiate antagonist: naltrexone
  - Decreased opioid use; decreased retention in treatment; suicide risk in early treatment (NIDA CTN X:BOT study)
- Detoxification
- Partial hospitalization/Residential/Intensive outpatient
- (Narcotics Anonymous/ Methadone Anonymous)

www.samhsa.gov – treatment locator
this is your brain on drugs.
Your Brain on Drugs

YELLOW shows places in brain where cocaine goes (Striatum).
The Pleasure-Reward Center
Substance Use and Health

- 50% of all pregnancies are unplanned
- Women who use substances may not realize they are pregnant until significant exposure has occurred

<table>
<thead>
<tr>
<th></th>
<th>Women ages 15-44</th>
<th>Pregnant Women</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current drinkers</td>
<td>54%</td>
<td>11%</td>
</tr>
<tr>
<td>Binge drinkers</td>
<td>24%</td>
<td>5%</td>
</tr>
<tr>
<td>Heavy drinkers</td>
<td>6%</td>
<td>1%</td>
</tr>
<tr>
<td>Current smokers</td>
<td>27.3%</td>
<td>16.4%</td>
</tr>
</tbody>
</table>

- Most children, adolescents, and adults receive no intervention or treatment
- You are in a position to make a difference!
SEP PREVENTION

Primary prevention
• SBIRT in ALL patients 9+
• Women ages 14-44: assess pregnancy risk and discuss effective contraception when appropriate

Secondary prevention
• SBIRT in ALL pregnant women
• Counsel safe SUD limits are 0 for ALL substances

Tertiary prevention
• Screen women with children for prior SEPs and provide counseling and referral as needed

• Non judgmental: reduce STIGMA
• SBIRT in pregnant women:
  • Screen for ANY substance use:
    • T-ACE
    • TWEAK
  • Referral thresholds lower
  • MAT with methadone or buprenorphine if OUD
• Women with prior SEP at greatest risk for current/future SEP
What is SBIRT?

• **Screen** all patients for problematic use of alcohol, drugs and tobacco

• Provide **Brief Intervention** to patients at-risk of developing a substance use disorder (risky-drinkers and all drug users)

• **Refer** patients with substance use disorders to appropriate **Treatment** services
### Substance Use Continuum

<table>
<thead>
<tr>
<th>Use</th>
<th>Consequences</th>
<th>Repetition</th>
<th>Loss of Control</th>
</tr>
</thead>
<tbody>
<tr>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td></td>
<td>*</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

- **I** Healthy, Abstinence
- **II** Risky
- **III** Harmful, Abuse
- **IV** Dependent

* N/A: Not applicable
## Standard Drink Chart

<table>
<thead>
<tr>
<th>12 oz. of beer or cooler</th>
<th>8-9 oz. of malt liquor</th>
<th>5 oz. of table wine</th>
<th>3-4 oz. of fortified wine (such as sherry or port)</th>
<th>2-3 oz. of cordial, liqueur, or aperitif</th>
<th>1.5 oz. of brandy (a single jigger)</th>
<th>1.5 oz. of spirits (a single jigger of 80-proof gin, vodka, whiskey, etc.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>12 oz.</td>
<td>8.5 oz.</td>
<td>5 oz.</td>
<td>3.5 oz.</td>
<td>2.5 oz.</td>
<td>1.5 oz.</td>
<td>1.5 oz.</td>
</tr>
</tbody>
</table>

*Shown straight and in a highball glass with ice to show level before adding mixer.*
## Healthy Drinking Limits

<table>
<thead>
<tr>
<th>Persons</th>
<th>Per Occasion</th>
<th>Per Week</th>
</tr>
</thead>
<tbody>
<tr>
<td>Men &lt; 65</td>
<td>≤ 4 drinks</td>
<td>≤ 14 drinks</td>
</tr>
<tr>
<td>Women, Men &gt;65</td>
<td>≤ 3 drinks</td>
<td>≤ 7 drinks</td>
</tr>
<tr>
<td>Pregnant</td>
<td>0 drinks</td>
<td>0 drinks</td>
</tr>
</tbody>
</table>
## Frequency of Alcohol Use Disorders

<table>
<thead>
<tr>
<th>Pattern of Alcohol Use</th>
<th>Frequency of Pattern</th>
<th>Incidence of Alcohol Disorders in Pattern</th>
</tr>
</thead>
<tbody>
<tr>
<td>Does not exceed daily/weekly limits</td>
<td>72%</td>
<td>1 in 100</td>
</tr>
<tr>
<td>Exceeds daily limit</td>
<td>16%</td>
<td>1 in 5</td>
</tr>
<tr>
<td>Exceeds daily AND weekly limits</td>
<td>10%</td>
<td>1 in 2</td>
</tr>
</tbody>
</table>
Alcohol Use & Disease

Risk for Specific Health Problems

Number of Standard Drinks per Day

Slide courtesy of Andrea DiMartini, MD, AMSP
Why SBIRT?

• Alcohol and drug use is common in adolescents and adults
  – Alcohol, tobacco and other drugs are the number one preventable cause of death
  – 3 out 10 Americans drink at levels that elevate health risks

• The likelihood of lifetime diagnosis of alcohol use disorder (AUD) increases two fold in children and adolescents who experiment with alcohol or marijuana

• Most children, adolescents, and adults receive no intervention or treatment

• You are in a position to make a difference!
Houston Resources

• Council on Recovery Houston: treatment matching, IOP
  • www.councilonrecovery.org or (713)942-4100

• Harris County Youth Services: part of CPS, runaways, school programs
  • www.hc-ps.org or (713) 394-4000

• Memorial Hermann Prevention and Recovery Campus: comprehensive from detoxification through aftercare
  • www.mhparc.org or (713)939-7272

• Palmer Drug Abuse Program: free, 12 step, IOP, crisis intervention
  • www.pdap.com or (713)301-0516

• Teen and Family Services: sliding scale fee, IOP
  • www.teenandfamilyservices.org or (713)464-3950
“Addressing Addiction in America”

https://addiction.surgeongeneral.gov

- https://www.drugabuse.gov/
- https://www.samhsa.gov/
- http://prescribetoprevent.org/
- www.texasoverdosenaloxoneinitiative.com