The Opioid Epidemic: Where are we, How did we get here, and Where are we going?

Aaron Fields, MD
Addiction Medicine Fellow
Instructor of Clinical Emergency Medicine

Public Health Grand Rounds
Friday, October 21, 2016
Conflicts of Interest

I’m not being paid for this. None of the interests mentioned pay me.

Eventually I’ll be working for/with some of the community treatment agencies, I have done my best to present the information in an unbiased manner.

Ownership or Intellectual Property

None of the images, graphs, or charts contained herein are my original works, and I do not claim ownership of them. Where possible, I have cited where they have been graciously borrowed from.
Opioid? Opiate? Heroin?
Epidemic

Really?
Increases in Drug and Opioid Overdose Deaths — United States, 2000–2014

“The United States is experiencing an epidemic of drug overdose (poisoning) deaths... From 2000 to 2014 nearly half a million persons in the United States have died from drug overdoses. In 2014, there were approximately one and a half times more drug overdose deaths in the United States than deaths from motor vehicle crashes (4). Opioids, primarily prescription pain relievers and heroin, are the main drugs associated with overdose deaths. In 2014, opioids were involved in 28,647 deaths, or 61% of all drug overdose deaths; the rate of opioid overdoses has tripled since 2000.”

http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6450a3.htm
### Heroin Use Has INCREASED Among Most Demographic Groups

<table>
<thead>
<tr>
<th>Category</th>
<th>2002-2004*</th>
<th>2011-2013*</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SEX</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>2.4</td>
<td>3.6</td>
<td>50%</td>
</tr>
<tr>
<td>Female</td>
<td>0.8</td>
<td>1.6</td>
<td>100%</td>
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<tr>
<td><strong>AGE, YEARS</strong></td>
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<td></td>
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<tr>
<td>12-17</td>
<td>1.8</td>
<td>1.6</td>
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<tr>
<td>18-25</td>
<td>3.5</td>
<td>7.3</td>
<td>109%</td>
</tr>
<tr>
<td>26 or older</td>
<td>1.2</td>
<td>1.9</td>
<td>58%</td>
</tr>
<tr>
<td><strong>RACE/ETHNICITY</strong></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Non-Hispanic white</td>
<td>1.4</td>
<td>3</td>
<td>114%</td>
</tr>
<tr>
<td>Other</td>
<td>2</td>
<td>1.7</td>
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<tr>
<td><strong>ANNUAL HOUSEHOLD INCOME</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than $20,000</td>
<td>3.4</td>
<td>5.5</td>
<td>62%</td>
</tr>
<tr>
<td>$20,000–$49,999</td>
<td>1.3</td>
<td>2.3</td>
<td>77%</td>
</tr>
<tr>
<td>$50,000 or more</td>
<td>1</td>
<td>1.6</td>
<td>60%</td>
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<tr>
<td><strong>HEALTH INSURANCE COVERAGE</strong></td>
<td></td>
<td></td>
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<tr>
<td>None</td>
<td>4.2</td>
<td>6.7</td>
<td>60%</td>
</tr>
<tr>
<td>Medicaid</td>
<td>4.3</td>
<td>4.7</td>
<td>--</td>
</tr>
<tr>
<td>Private or other</td>
<td>0.8</td>
<td>1.3</td>
<td>63%</td>
</tr>
</tbody>
</table>

**Heroin Addiction and Overdose Deaths are Climbing**

- **Heroin-Related Overdose Deaths** (per 100,000 people)
- **Heroin Addiction** (per 1,000 people)

Figure 1

Prescription Opioid and Heroin Overdose Death Rates
(Per 100,000 population)

Source: CDC, NCHS, Multiple Cause of Death on CDC WONDER Online Database, released 2015. Accessed at http://wonder.cdc.gov/mcd-icd10.html on December 9, 2015. Rates are age-adjusted by NCHS to facilitate comparisons over time or among groups, such as those living in different geographic areas. This type of measure eliminates differences that would be expected due to variations in age, such as higher or lower rates of heroin or opioid use.
Heroin Deaths in Monroe and surrounding counties

<table>
<thead>
<tr>
<th>Year</th>
<th>Total # Deaths</th>
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<tbody>
<tr>
<td>2011</td>
<td>11</td>
</tr>
<tr>
<td>2012</td>
<td>30</td>
</tr>
<tr>
<td>2013</td>
<td>67</td>
</tr>
<tr>
<td>2014</td>
<td>95</td>
</tr>
<tr>
<td>2015</td>
<td>85</td>
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</table>

Deaths Related to Use of Street Heroin/Fentanyl:
2011-2015

<table>
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<tr>
<th>Month</th>
<th>Deaths</th>
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<tbody>
<tr>
<td>Jan</td>
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</tr>
<tr>
<td>Feb</td>
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<tr>
<td>Mar</td>
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</tr>
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<td>Apr</td>
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<tr>
<td>May</td>
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<tr>
<td>Sep</td>
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<td>3</td>
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<tr>
<td>Nov</td>
<td>2</td>
</tr>
<tr>
<td>Dec</td>
<td>2</td>
</tr>
</tbody>
</table>

Monroe Co Medical Examiner
Just the numbers – in 2014 – in NY

825 heroin-related overdose deaths
  • 159 more than in 2013 (23.9% more)
  • Nearly 25x the number in 2004 (33... Think about that)
  • **Per million people, the heroin death rate went from 1.7 to 41.8**

1008 Rx-opioid related overdose deaths
  • 0.9% more than 2013
  • Nearly 4x the number in 2005

These numbers have only gone up since then.
Where Are We?

2. http://thumbs3.ebaystatic.com/d/l225/m/mB-cbtBGFVTbRqydBn_FNMe.jpg
3. https://upload.wikimedia.org/wikipedia/commons/1/1c/Papaver_somniferum_(3).jpg
5. https://www.strictlymedicinalseeds.com/images/products/Turkish_poppy_300.jpg
Definitions

**Opioid** – refers to ALL opiates, natural, synthetic, and semi-synthetic

**Opiate** – drugs derived from opium

**Opium** – the dried latex harvested from *Papaver somniferum*
Heroin

Diacetylmorphine

- Extensive 1\textsuperscript{st} pass metabolism to morphine
- 2-4x potency of morphine when used IV
- Acetyl groups allow blood-brain barrier crossing
- Active prodrug

https://en.wikipedia.org/wiki/Heroin
This 2014 heat graph provided by the Centers for Disease Control and Prevention, displays heroin overdose deaths per population of 100,000 across the United States. Dark blue indicates numbers of four and below, and as numbers increase, they turn to a dark red, indicating closer to 20 and over deaths per 100,000. (CDC Graph photo)
Some states have more painkiller prescriptions per person than others.

Number of painkiller prescriptions per 100 people

- 52-71
- 72-82.1
- 82.2-95
- 96-143

SOURCE: IMS, National Prescription Audit (NPA™), 2012.
Health care providers in different states prescribe at different levels.

Number of painkiller prescriptions per 100 people

Lowest

- NJ: 63
- NY: 60
- HI: 52
- CA: 57

Average

- AZ: 82
- NE: 79
- WA: 77
- ND: 75
- TX: 74
- IA: 73
- CT: 72
- CO: 71
- WY: 70
- VT: 67
- AK: 65

- SC: 102
- NC: 97
- OH: 100
- DE: 91
- RI: 90
- PA: 88
- ME: 85
- MS: 120
- AR: 116
- OK: 128

Highest

- VA: 78
- MT: 82
- WI: 76
- NM: 74
- FL: 73
- NH: 72
- MA: 71
- OR: 89
- LA: 118
- KY: 128

State Abbreviation — GA: 91 — Number of painkiller prescriptions per 100 people

Source: IMS, National Prescription Audit (NPA™), 2012.
And you may ask yourself...

How did we get here???
New York Consumption of Oxycodone
1980 - 2006

Mg/capita

Sources: U.S. Dept of Justice, Drug Enforcement Administration, Office of Diversion Control
Figure 1: Promotional Spending for Three Opioid Analgesics in First 6 Years of Sales

Absolute dollars in millions

Source: DEA and IMS Health, Integrated Promotional Service Audit.

Vital Signs are taken seriously. If pain were assessed with the same zeal as other vital signs are, it would have a much better chance of being treated properly. We need to train doctors and nurses to treat pain as a vital sign. Quality care means that pain is measured and treated.

James Campbell, MD
Presidential Address, American Pain Society
November 11, 1996
The evidence


ADDICTION RARE IN PATIENTS TREATED WITH NARCOTICS

*To the Editor:* Recently, we examined our current files to determine the incidence of narcotic addiction in 39,946 hospitalized medical patients¹ who were monitored consecutively. Although there were 11,882 patients who received at least one narcotic preparation, there were only four cases of reasonably well documented addiction in patients who had no history of addiction. The addiction was considered major in only one instance. The drugs implicated were meperidine in two patients,² Percodan in one, and hydromorphone in one. We conclude that despite widespread use of narcotic drugs in hospitals, the development of addiction is rare in medical patients with no history of addiction.

JANE PORTER
Hershel Jick, M.D.
Boston Collaborative Drug Surveillance Program
Waltham, MA 02154
Boston University Medical Center

Opioid Abuse in Chronic Pain — Misconceptions and Mitigation Strategies
Nora D. Volkow, M.D., and A. Thomas McLellan, Ph.D.

Review article
Rethinking the role of opioids in the outpatient management of chronic nonmalignant pain
David A. Provenzano & Eugene R. Viscusi
Pages 2051-2062 | Accepted 01 May 2014, Accepted author version posted online: 08 May 2014, Published online: 18 Jun 2014

surveys as it pertains to payment and quality metrics
- Advocate that "pain as the fifth vital sign" be removed from professional standards and usage
- Work with the Joint Commission to promote evidence-based, functional and effective pain assessment and treatment measures for accreditation standards
An E.R. Kicks the Habit of Opioids for Pain

Instead of opioids, an E.R. in New Jersey now treats many pain patients only with alternatives like laughing gas, trigger-point injections and even a therapy called...
Cherish the pain, Ted. It means you're still alive.
Where Are We Going?

1. Recognition
   • Discussions in a Public Forum
   • Opioid-prescribing CME
   • Residency Curriculum
Discussion in a Public Forum

Continuing Medical Education (CME)
Resident Education

5 PHRASES I OVERRUSED AS A RESIDENT

1. "So what brought you here today?"
   - "A car! *snerk*
   - "Not funny."

2. "Uh... I'm not sure, let me consult my attending."

3. "Uh... I didn't specifically ask the patient that, but... I'm not sure..."

4. "I can't quit smoking."
   - "That's very understandable."
   - "I keep gaining weight."
   - "I dropped my vicodin in the toilet. Again."
   - "Totally understandable."

http://2.bp.blogspot.com/-rlZ9Qm2gc-0/TXvvNLvcWNJ/AAAAAAAAAvg/mu21ShrlgxM/s1600/phrases.jpg
Where Are We Going?

1. Recognition
2. Prevention

Decreasing new exposures

- Ankle Sprain?
  - RICE it.
- Rib Fractures?
  - Lidoderm it.
- Dental Pain?
  - Nerve Block it.
Now for some Hippie Stuff

MIND BODY MEDICINE PROGRAM

As a result of a grant from the National Institute of Health National Center of Complementary and Alternative Medicine (NCCAM), Georgetown University School of Medicine has integrated a course in Mind-Body Medicine into its medical school curriculum. In addition, an annual professional training program in Mind-Body Medicine is being offered to the faculty of Georgetown University School of Medicine and Georgetown University Law Center.

Mind-body approaches - including self-awareness, relaxation, meditation, guided imagery, biofeedback, physical exercise, art, music and movement - are among the best known and most widely used of the complementary, alternative or integrative approaches to healthcare. Mind-body approaches are particularly important in another way. By their very nature they put high value on, and teach the power of self-awareness and self-care. In so doing, they help shape the new integrative model of healthcare - one in which treatment is balanced with teaching, in which prevention and self-care are given as much respect as procedures and pharmacological interventions.
Prevention

Decreasing the supply of prescription medications available

• Fewer prescriptions
• Shorter duration
• Decreased manufacturing
• Increased copays
• Change Prior Authorization policies
• Prescription Monitoring Program

DEA Reduces Amount of Opioid Controlled Substances to be Manufactured in 2017

OCT 04 (WASHINGTON) - The United States Drug Enforcement Administration (DEA) has reduced the amount of almost every Schedule II opiate and opioid medication that may be manufactured in the United States in 2017 by 25 percent or more, according to a Final Order being published in the Federal Register tomorrow and available for public inspection today. A handful of medicines were reduced by more, such as hydrocodone, which will be 66 percent of last year’s level. Demand for these opioid medicines, represented by prescriptions written by DEA-registered practitioners, has decreased according to sales data obtained by DEA from IMS Health, a company that provides insurance companies with data on prescriptions written and prescription medications sold in America.

The Aggregate Production Quota (APQ) established by the Final Order is the total amount of a controlled substance necessary to meet the estimated medical, scientific, research, industrial, and export needs for the year and for the maintenance of reserve stocks. The 2017 APQ has been reduced for oxycodone, hydrocodone, fentanyl, hydromorphone, morphine, and other such medications. Much of this reduction is attributed to the elimination of a 25 percent buffer that was added to the APQ annually in 2013 through 2016 to guard against shortages.

The 2015 National Survey on Drug Use and Health (NSDUH) released last month found 6.5 million Americans over the age of 12 used controlled prescription medicines non-medically during the past month, second only to marijuana and more than past-month users of cocaine, heroin, and hallucinogens combined.
Prescription Monitoring Program

Mandatory Electronic Prescribing Effective as of March 27, 2016. Additional information pertaining to electronic prescribing may be accessed at the following link: http://www.health.ny.gov/professionals/narcotic/electronic_prescribing/

Patient Search

By clicking "Yes" below, you attest that you will abide by the guidelines for use of this registry in accordance with the New York State Public Health Law. Click here to review these guidelines.

Keeping your DEA number(s) up to date on the My DEA Numbers page will enable the separation of your prescriptions from others' in the search results.

Required Patient Information:

1. Enter the Required Patient Information in the fields indicated above.
2. Confirm your attestation and that the patient information is correct by clicking the "Yes" button.
3. On the following page, click on the "Continue" button.
   - If the indicated patient has filled one or more controlled substance prescriptions within the last twelve months, a report will be generated detailing those prescription(s).
   - If the indicated patient has not filled any controlled substance prescriptions within the last twelve months, a report will be generated indicating that fact.
Making a Difference: State Successes

New York 75% ↓

2012 Action:
New York required prescribers to check the state’s prescription drug monitoring program before prescribing painkillers.

2013 Result:
Saw a 75% drop in patients who were seeing multiple prescribers to obtain the same drugs, which would put them at higher risk of overdose.

Florida 50% ↓

2010 Action:
Florida regulated pain clinics and stopped health care providers from dispensing prescription painkillers from their offices.

2012 Result:
Saw more than 50% decrease in overdose deaths from oxycodone.

Tennessee 36% ↓

2012 Action:
Tennessee required prescribers to check the state’s prescription drug monitoring program before prescribing painkillers.

2013 Result:
Saw a 36% drop in patients who were seeing multiple prescribers to obtain the same drugs, which would put them at higher risk of overdose.

The Comprehensive Addiction and Recovery Act (CARA)

July 22, 2016

Expanded Naloxone availability

Improving Prescription Drug Monitoring Programs

Increasing prevalence of Drug Court programs

Increase funding for Addiction Treatment (MAT)

Enable those with past drug problems to qualify for federal student aid programs

Training vets with military emergency medical training to meet requirements for becoming civilian healthcare professionals.
Where Are We Going?

1. Recognition
2. Prevention
3. Treatment
Addiction Treatment Programs

**Outpatient** – ABC, Baden St., Restart, Conifer, Delphi, Huther-Doyle, RGH, Unity, Sisters Hospital Rochester Pathways, Strong Recovery, Villa of Hope, Westfall Associates

**Residential** – Restart, East House, Pathway Houses of SBH, Unity, Veterans, Villa of Hope, YWCA Supportive Living

**Inpatient** – Norris, Unity, Confier

**Detox** – Syracuse Behavioral Health (IN ROCHESTER)
# National Council on Alcoholism & Drug Dependence-Rochester Area

**MONROE COUNTY OASAS CERTIFIED TREATMENT PROVIDERS**

**1931 Buffalo Road - Rochester, New York 14624**

**Telephone: (585) 719-3480 or 719-3483 Fax: (585) 423-1908**

**Website: [www.ncadd-ra.org](http://www.ncadd-ra.org)**

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## SERVICE DESCRIPTION

<table>
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<tr>
<th>PROVIDERS NAME</th>
<th>ABC</th>
<th>Baden St.</th>
<th>CFRC/Restart</th>
<th>Conifer</th>
<th>Delphi</th>
<th>East House</th>
<th>Huther-Doyle</th>
<th>J.L. Norris ATC</th>
</tr>
</thead>
</table>

## Intake Contact Person

- Maureen Powell-Smith
- Marissa Douglass
- Krystal González
- Yolanda Monagas
- Elizabeth Kingsley-Curtin
- John DeVault
- Florence Dukes

## Phone Numbers

- **ABC**: 585-719-3480 or 719-3483
- **Baden St.**: 585-274-2230 x 121
- **CFRC/Restart**: 585-2230 x 121
- **Conifer**: 585-2230 x 121
- **Delphi**: 585-2230 x 121
- **East House**: 585-2230 x 121
- **Huther-Doyle**: 585-2230 x 121
- **J.L. Norris ATC**: 585-2230 x 121

## Fax Numbers

- **ABC**: 585-422-0226
- **Baden St.**: 585-422-0226
- **CFRC/Restart**: 585-422-0226
- **Conifer**: 585-422-0226
- **Delphi**: 585-422-0226
- **East House**: 585-422-0226
- **Huther-Doyle**: 585-422-0226
- **J.L. Norris ATC**: 585-422-0226

## E-Mail Addresses

- ABC: abcinfo@ncadd-ra.org
- Baden St.: badenstreet@ncadd-ra.org
- CFRC/Restart: cfrcrochester@ncadd-ra.org
- Conifer: conifer@ncadd-ra.org
- Delphi: delphi@ncadd-ra.org
- East House: easthouse@ncadd-ra.org
- Huther-Doyle: hutherdoyle@ncadd-ra.org
- J.L. Norris ATC: jlnorris@ncadd-ra.org

## Deaf Program Contact

Leslie Tabin / 461-0410 x 238

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## EVALUATION PROVIDE PROVIDE PROVIDE PROVIDE PROVIDE PROVIDE PROVIDE PROVIDE

**CLIENT TYPE**

- Youth under 18: ACCEPT
- Adult: ACCEPT
- Female: ACCEPT
- Male: ACCEPT
- Child with Children: ACCEPT

## ADDICTION SERVICES PROVIDE PROVIDE PROVIDE PROVIDE PROVIDE PROVIDE PROVIDE PROVIDE

- **Alcohol**: PROVIDE
- **Substance Abuse**: PROVIDE
- **Narcotics**: PROVIDE
- **Suboxone**: PROVIDE
- **Dual Diagnosis**: PROVIDE
- **Deaf/Hard of Hearing Program**: PROVIDE
- **Spanish Program**: PROVIDE

## LEVEL OF CARE PROVIDE PROVIDE PROVIDE PROVIDE PROVIDE PROVIDE PROVIDE PROVIDE

- **Detox**: PROVIDE
- **Inpatient**: PROVIDE
- **Outpatient**: PROVIDE
- **Residential**: PROVIDE

## INSURANCE TYPE PROVIDE PROVIDE PROVIDE PROVIDE PROVIDE PROVIDE PROVIDE PROVIDE

- **Aetna**: PROVIDE
- **Cigna**: PROVIDE
- **Medicaid**: PROVIDE
- **Medicare**: PROVIDE
- **Montana Plan**: PROVIDE
- **United**: PROVIDE
- **Videe**: PROVIDE
- **CVS**: PROVIDE
- **Public Assistance**: PROVIDE
- **TriCare**: PROVIDE
- **Sliding Fee Scale**: PROVIDE

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Disclaimer: Information included on this template is updated biannually based on data shared with NCADD-RA from each of the providers. Updates are posted at [www.ncadd-ra.org](http://www.ncadd-ra.org)

Revised: August 2016
Medication Assisted Treatment

Methadone
• Full agonist, very long half-life
• Daily dispensing

Buprenorphine
• Partial agonist/antagonist, very long half-life
• Often start with weekly prescription

Naloxone
• Antagonist, short half-life, NOT a controlled substance
• Available in monthly intramuscular injection - Vivitrol
Heroin use is part of a larger substance abuse problem.

Nearly all people who used heroin also used at least 1 other drug.

Most used at least 3 other drugs.

**Heroin** is a highly addictive opioid drug with a high risk of overdose and death for users.

People who are addicted to...

- Alcohol are 2x more likely to be addicted to heroin.
- Marijuana are 3x more likely to be addicted to heroin.
- Cocaine are 15x more likely to be addicted to heroin.
- Rx Opioid Painkillers are 40x more likely to be addicted to heroin.

Peace

Love

Rock n' Roll
References


UNIVERSITY of Rochester MEDICAL CENTER

Medicine of the Highest Order