Pain Management and the Opioid Epidemic
Where are we today

Jeffrey Fudin, B.S., Pharm.D., FCCP, FASHP
Diplomate, Academy of Integrative Pain Management (AIPM)
President and Director, Scientific and Clinical Affairs, REMITIGATE LLC
Clinical Pharmacy Specialist & PGY2 Pain Residency Director; Stratton VA Medical Center (WOC)

Adjunct Associate Professor;
Albany College of Pharmacy & Health Sciences,
Western New England University College of Pharmacy, UCONN School of Pharmacy
More specifically...

• Where were we?
• Where we are now?
• How we got here (dispelling the myths)?
• Clarification of alternative facts
Objectives

1. Interpret current opioid usage and outcomes data
2. Evaluate facts and myths associated with opioid usage and mortality
3. Recognize at least 3 medical disorders of “epidemic proportion” other than opioid abuse that may involve addictive personality
4. Summarize pharmacist strategies to address the opioid epidemic and mitigate opioid risk
Nonmedical use of opioid analgesics from early 2000 to the mid-2000's have...

A. increased approximately 50%
B. decreased approximately 50%
C. remained the same
D. have fluctuated up and down
Pre / Post Test #2

Which of the following is true regarding morphine equivalent daily equivalent (MEDD) doses?

A. There is general consensus of what constitutes an MEDD
B. The Internet posted CDC calculator should be used to provide accurate morphine equivalents for methadone conversions
C. Online opioid conversion calculators by states and federal agencies are generally consistent in terms of MEDD
D. There is no general consensus on what constitutes an MEDD
Two Types of Opioid Consumers

1. Opioid abuse disorder
   • Heroin
   • Carfentanil
   • RX opioids
   • Other

2. Legitimate opioid consumers (RX)
   • Long-term opioid therapy v. short-term acute pain

3. A combination of #1 and #2 above
Myths about Opioid Addiction in the U.S.

• Opioid Abuse is dominated by the African-American community
• Increased opioid RX's are the cause of overdose deaths
• Addiction starts with teens using opioids
US Prescription Opioid-Related Deaths

- Approximately **16,000 deaths in 2013** from Rx opioids
- Approximately **9,000 deaths in 2013** from heroin
- According to the CDC:
  - ~85% unintentional ≈ 13,600 deaths
  - ~37 unintentional deaths/day
  - ~1 unintentional death every 40 minutes
- Children/infant deaths
  - ~3,300 in 2014 (down from 5,187 in 2004)

# NSAID Mortality

Putting things in perspective...

<table>
<thead>
<tr>
<th>Number of NSAID Deaths</th>
<th>16,500</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data Source</td>
<td>Arthritis, Rheumatism, and Aging Medical Information System (ARAMIS)</td>
</tr>
<tr>
<td>Study Type</td>
<td>1999 observational study</td>
</tr>
</tbody>
</table>

National Overdose Deaths
Number of Deaths from Prescription Opioid Pain Relievers (excluding non-methadone synthetics)

Source: National Center for Health Statistics, CDC
National Overdose Deaths
Number of Deaths from Heroin

Source: National Center for Health Statistics, CDC
Wonder
Figure 1. Past year initiation of heroin among individuals aged 12 or older, by age group: 2013

Source: SAMHSA, CBHSQ, National Survey on Drug Use and Health (NSDUH), 2013.
National Overdose Deaths
Number of Deaths from Heroin and Non-Methadone Synthetics (captures illicit opioids)

Non-methadone synthetics dominated by illicit fentanyl

Source: National Center for Health Statistics, CDC Wonder
Alternative Facts

Percentage of counties with changes in opioid prescribing — United States, 2010–2015

<table>
<thead>
<tr>
<th>Opioid prescribing measures</th>
<th>Decrease (%)</th>
<th>Stable (%)</th>
<th>Increase (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MEDD per capita</td>
<td>49.6</td>
<td>27.8</td>
<td>22.6</td>
</tr>
<tr>
<td>Overall prescribing rate</td>
<td>46.5</td>
<td>33.8</td>
<td>19.6</td>
</tr>
<tr>
<td>High-dose prescribing rate</td>
<td>86.5</td>
<td>6.7</td>
<td>6.9</td>
</tr>
<tr>
<td>Average daily MME per prescription</td>
<td>72.1</td>
<td>25.7</td>
<td>2.2</td>
</tr>
</tbody>
</table>

Are deaths due to carfentanil?

• 2015 New Hampshire data:
  ✓ 351 total opioid deaths
  ✓ 28 died of heroin as a single-drug overdose
  ✓ Fentanyl was a factor in 253 of the overdose deaths!


• 2017 New Hampshire data (January 1-April 13, 2017):
  ✓ 0 deaths from heroin alone
  ✓ 18 deaths due to fentanyl
  ✓ 2 deaths from a heroin-fentanyl combination
  ✓ 86 deaths pending toxicology reports

Leclerc C. More people now dying from fentanyl than heroin in New Hampshire. WMUR on Demand. April 13, 2017.
Substance Abuse is Complex
Political rhetoric attempts to simplify the issues...

• Genetic
• Psychiatric
• Social
• Environmental
• Economic
Medical Problems Involving Addiction

• Diabetes
• Obesity
• Lung Cancer
• GERD

Does formulation selection matter?

Fentanyl Patch

Fentanyl TIRF

Included with permission from Dr. Steven Passik with revisions
Addiction (ASAM-short)

• A primary, chronic disease involving brain dysfunction which encompassing reward, motivation, memory and related circuitry.
  • Includes biological, psychological, social and spiritual manifestations.
• Compulsive reward seeking
  • relief by substance use and other behaviors
  • Examples?

https://www.asam.org/quality-practice/definition-of-addiction
Addiction is not Simply a Disease of Exposure

Exposure is necessary but not sufficient

✓ Exposure to drug
✓ Vulnerable person
✓ Vulnerable time

Could this have ended badly?

Newsflash, April 2013
Louisville Player Shatters Leg During Elite 8 Game

Louisville athlete Kevin Ware, 2013
✓ Exposure to drug
✓ Vulnerable person
✓ Vulnerable time

Alecia J. Gruesome basketball injury for Ware a 'freak accident,' doc says. NBC News. Apr 01, 2013.
<table>
<thead>
<tr>
<th>Risk Assessment Tools</th>
<th>Question Formats</th>
<th>Indications</th>
<th>Advantages</th>
<th>Disadvantages</th>
<th>Scoring</th>
<th>Validated</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOAPP1</td>
<td>5, 14, 24</td>
<td>1° Care, Assess for high abuse risk, suitability for long term opioid tx, preferable to ORT in high-risk populations</td>
<td>Best psychometrics, less susceptible to deception, 5-10 minutes</td>
<td>Dependent on patient reporting, Copyrighted</td>
<td>Numeric, simple to interpret</td>
<td>Yes, 14 question studied in 396 pts</td>
</tr>
<tr>
<td>SOAPP-R2</td>
<td>24</td>
<td>Primary Care</td>
<td>5 minutes, Cross-validated, Less susceptible to overt deception c/t SOAPP</td>
<td>Less sensitive and less specific than SOAPP</td>
<td>Numeric, simple to interpret</td>
<td>Yes, 283 pts</td>
</tr>
<tr>
<td>ORT3</td>
<td>5</td>
<td>Categorizes patients as low risk, moderate risk, and high risk</td>
<td>Less than 1 minute, simple scoring, high sensitivity &amp; specificity when stratifying patients</td>
<td>1 question in the ORT is limited by patient’s knowledge of family history of substance abuse</td>
<td>Numeric, simple to interpret</td>
<td>Yes, (male and female), Preliminary Validation in 185 patients at 1 pain clinic, high degree of sensitivity and specificity</td>
</tr>
<tr>
<td>DIRE4</td>
<td>7, by pt interview</td>
<td>risk of opioid abuse and suitability of candidates for long term opioid therapy</td>
<td>2 minutes, score correlates well with patient’s compliance&amp; efficacy of long term opioid therapy</td>
<td>Prospective validation needed</td>
<td>Numeric, simple to interpret</td>
<td>?, Retrospective validation only of 61 pts over 38 months</td>
</tr>
</tbody>
</table>

Strategies: Assess Abuse Risk

<table>
<thead>
<tr>
<th>Opioid Misuse Tools</th>
<th>Question Formats</th>
<th>Indications</th>
<th>Advantage(s)</th>
<th>Disadvantages</th>
<th>Scoring</th>
<th>Validated</th>
</tr>
</thead>
<tbody>
<tr>
<td>PADT(^5)</td>
<td>N/A</td>
<td>To streamline the assessment of outcomes in patients with chronic pain, 2 sided chart note based on 4-A's*</td>
<td>5 minutes, Documents progress over time, Complements a comprehensive clinical evaluation</td>
<td>Not intended to be predictive of drug-seeking behavior or predict positive or negative outcomes to opioid therapy</td>
<td>N/A</td>
<td>Further studies needed to confirm the reliability and validity, Studied in 388 patients by 27 clinician</td>
</tr>
<tr>
<td>COMM(^6)</td>
<td>17</td>
<td>To assess aberrant medication related behaviors of chronic pain patients</td>
<td>10 minutes, Useful in assessing &amp; reassessing adherence to opioid RX(s)</td>
<td>Long term reliability is unknown</td>
<td>Numeric</td>
<td>Studied in small study, needs to be replicated</td>
</tr>
<tr>
<td>ABC(^7)</td>
<td>20 questions</td>
<td>Ongoing clinical assessment of chronic pain patients on opioid therapies</td>
<td>Concise and easy to score, Studied in the VA setting</td>
<td>Needs validation in non-VA setting.</td>
<td>Score of ≥3 indicates possible inappropriate opioid based on Y/N answers</td>
<td>Studied 136 veterans in a multidisciplinary VA Chronic Pain Clinic</td>
</tr>
</tbody>
</table>

7. J Pain Symptom Manage 2006;32:342-351

**Strategies:**
**Assess Misuse Risk**
What should pharmacist **not do**...

1. Perpetuate false information and rhetoric
2. Deny prescriptions based solely on MEDD
3. Assume that MEDD is accurate *(more to come...)*
4. Avoid counseling when patient “forfeits” it
5. Prejudge patients receiving chronic opioid therapy
6. Dispense opioids combined with sedative-hypnotics without carefully checking the reasons with patient and prescriber
(+/-) % Variation (Compared to Manual Calculation)

CDC Advert for CDC Online Opioid Calculator

Injury Prevention & Control: Opioid Overdose

Guideline Resources: CDC Opioid Guideline Mobile App

CDC’s new Opioid Guideline App is designed to help providers apply the recommendations of CDC’s Guideline for Prescribing Opioids for Chronic Pain into clinical practice by putting the entire guideline, tools, and resources in the palm of their hand. Managing chronic pain is complex, but accessing prescribing guidance has never been easier.

The application includes a Morphine Milligram Equivalent (MME) calculator*, summaries of key recommendations and a link to the full Guideline, and an interactive motivational interviewing feature to help providers practice effective communications skills and prescribe with confidence.

Free Download

The new CDC Opioid Guideline App is now available for free download on Google Play (Android devices) and in the Apple Store (iOS devices).

Related Pages

- Guideline Resources
- Guideline Resources: Posters
CDC Calculator lacks accuracy with methadone conversion!

1. **DETERMINE** the total daily amount of each opioid the patient takes.

2. **CONVERT** each to MMEs—multiply the dose for each opioid by the conversion factor. (see table)

3. **ADD** them together.

### Calculating morphine milligram equivalents (MME)

<table>
<thead>
<tr>
<th>OPIOID</th>
<th>CONVERSION FACTOR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Codeine (doses in mg/day)</td>
<td>0.15</td>
</tr>
<tr>
<td>Fentanyl transdermal (in mcg/hr)</td>
<td>2.4</td>
</tr>
<tr>
<td>Hydrocodone</td>
<td>1</td>
</tr>
<tr>
<td>Hydromorphone</td>
<td>4</td>
</tr>
<tr>
<td>Methadone</td>
<td></td>
</tr>
<tr>
<td>1-20 mg/day</td>
<td>4</td>
</tr>
<tr>
<td>21-40 mg/day</td>
<td>8</td>
</tr>
<tr>
<td>41-60 mg/day</td>
<td>10</td>
</tr>
<tr>
<td>≥ 61-80 mg/day</td>
<td>12</td>
</tr>
<tr>
<td>Morphine</td>
<td>1</td>
</tr>
<tr>
<td>Oxycodone</td>
<td>1.5</td>
</tr>
<tr>
<td>Oxymorphone</td>
<td>3</td>
</tr>
</tbody>
</table>

*These dose conversions are estimated and cannot account for all individual differences in genetics and pharmacokinetics.*

### An Actual Example from CDC Smart Phone App

**Guideline Resources: CDC Opioid Guideline Mobile App**

<table>
<thead>
<tr>
<th>“Morphine Equivalent” (mg)</th>
<th>Methadone Daily Dose (mg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>80</td>
<td>20</td>
</tr>
<tr>
<td>168</td>
<td>21</td>
</tr>
<tr>
<td>320</td>
<td>40</td>
</tr>
<tr>
<td>410</td>
<td>41</td>
</tr>
</tbody>
</table>

https://www.cdc.gov/drugoverdose/prescribing/app.html
Conclusion

What should we do?
Conclusions / What should pharmacists do?

1. Check PDMP
2. Participate & promote educational programs for patients, pharmacists, and other clinicians
3. Be a team player with prescribers
4. In an ideal world
   - Assess risk for OIRD, abuse, and misuse prior to discharge and when dispensing RX in community
5. Treat each patient with “individualized” approach
6. Evaluate for and provide naloxone for in-home use
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Questions?