Lessons Learned – A Decade of Experience
Addressing the Opioid Crisis
Mercy Health

Ohio’s 2019 Opiate and Other Drug Conference
June 10, 2019
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Trainer/Educator with Mercy Health Behavioral Health Institute/Neil Kennedy Recovery Clinic

Former Executive Director of the Trumbull County Mental Health and Recovery Board
Where We Serve
Training Objectives

- Identify genesis of Opiate Epidemic
- Understand SUD as a public health problem
- Understand evidence-based pain management protocols
- Understand the impact/importance of appropriate adolescent prescribing
- Become acquainted with a simple, brief validated screening instrument to identify patients with “at-risk” SUD behaviors
- Understand Brief Intervention procedure and evidence of effectiveness
RESPONSE TO PRESCRIPTION OPIOID CRISIS...

What’s a dentist doing here??
There are a sizeable number of people whose visit to a dentist represents their sole interaction with the health care system.
There are a sizeable number of people whose visit to a dentist represents their sole interaction with the health care system.

Figure 1: Trends in Emergency Department Visits for Dental Conditions, 2006 to 2012

2018 ED Encounters and Emergency Response due to Drug Overdoses
Data Compiled Cooperatively by Trumbull County Mental Health & Recovery Board and the Trumbull County Combined Health District


### Drug Overdoses by Location

<table>
<thead>
<tr>
<th>Zip Code</th>
<th>Number</th>
<th>Percent</th>
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<tr>
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<tr>
<td>44484</td>
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<tr>
<td>44485</td>
<td>46</td>
<td>10.09%</td>
</tr>
<tr>
<td>44491</td>
<td>5</td>
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</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>456</strong></td>
<td><strong>100%</strong></td>
</tr>
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### Drug Overdoses by Age

<table>
<thead>
<tr>
<th>Age Range</th>
<th>Number</th>
<th>Percent</th>
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<tr>
<td>0-19</td>
<td>26</td>
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<td>20-30</td>
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<td>31-40</td>
<td>134</td>
<td>29.39%</td>
</tr>
<tr>
<td>41-50</td>
<td>70</td>
<td>15.35%</td>
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<tr>
<td>51-60</td>
<td>60</td>
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<td>71-90</td>
<td>5</td>
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</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>456</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

### Estimated overdoses (Hospital Encounters)

- Estimated overdoses (Hospital Encounters) for January 2018: 49
- Estimated overdoses (Hospital Encounters) for February 2018: 41
- Estimated overdoses (Hospital Encounters) for March 2018: 22
- Estimated overdoses (Hospital Encounters) for April 2018: 46
- Estimated overdoses (Hospital Encounters) for May 2018: 60
- Estimated overdoses (Hospital Encounters) for June 2018: 68
- Estimated overdoses (Hospital Encounters) for July 2018: 90
- Estimated overdoses (Hospital Encounters) for August 2018: 101
- Estimated overdoses (Hospital Encounters) for September 2018: 86
- Estimated overdoses (Hospital Encounters) for October 2018: 82
- Estimated overdoses (Hospital Encounters) for November 2018: 56
- Estimated overdoses (Hospital Encounters) for December 2018: 63

**Total: 764**

**Official FATAL Overdoses in 2018:** 65
**Unofficial FATAL Overdoses in 2018:** 11

### Accidental Drug Related Deaths: Trumbull County

Information provided by Trumbull County Coroners Office

![Graph showing accidental drug-related deaths in Trumbull County from 2007 to 2018](image)

- 2007: 64
- 2008: 46
- 2009: 46
- 2010: 49
- 2011: 59
- 2012: 36
- 2013: 39
- 2014: 53
- 2015: 87
- 2016: 107
- 2017: 135
- 2018: 76

44% Decrease

275% Increase

1/8/2019
Overdoses by Month
Source: Trumbull County Combined Health District

2018 Toxicology Results through 11/15/18
Source: Trumbull County Coroners Office
MERCY DENTAL RESIDENCY RESPONSE TO OPIATE CRISIS

- Definitive Care Concept
- Dental Pain Management Curriculum
- SBIRT Introduction/Integration
Definitive Dental Care Outcomes

• Immediate and definitive relief of pain and infection
• Interrupts progression of pathology
• Eliminates exacerbation of other systemic morbidities
• Eliminates unnecessary use of narcotics
Fig. 1 Preoperative magnetic resonance imaging scan of a 2-3 cm ring-enhancing lesion of the right frontoparietal lobe. Note the surrounding edema along the superior corona radiata.
Streptococcus sanguinis Brain Abscess as Complication of Subclinical Endocarditis: Emphasizing the Importance of Prompt Diagnosis

Hayah Kassis, BS, Thomas Marnejon, DO, David Gemmel, PhD, Anthony Cutrona, MD, and Rajashree Gottimukkula, MD, MPH

Abstract: A 19-year-old male patient was diagnosed with S. sanguinis brain abscess of unknown etiopathology as a complication of subclinical endocarditis. While viridans streptococci are implicated in dental seeding to the heart, S. sanguinis brain abscesses are rare. Six previous cases of S. sanguinis brain abscess in the literature reported dental procedures and maxillofacial trauma. In our patient, there was no obvious source of infective endocarditis preceding the development of brain abscess. This demonstrates the importance of prompt diagnosis and initiation of antimicrobial therapy given the potential for long-term sequelae such as focal deficits and seizures.

Key Words: brain abscess, endocarditis, Streptococcus sanguinis

Due to more effective antibiotics and the development of magnetic resonance imaging (MRI) and computed tomography (CT) technology, brain abscess mortality has been reduced by as much as 24% in the last two decades.1 The incidence of brain abscess is rare, occurring in 1 out of 100,000 people and accounting for 1 out of 10,000 hospital visits in the United States.1 Staphylococcus, Streptococcus anginosus and milleri species, Prevotella, and Bacteroides account for the majority of intracranial infections.2 Despite its presence in the oral cavity, upon review of the world’s literature, only seven cases of brain abscesses caused by Streptococcal sanguinis, including the current patient, were identified (Table).1,3-7

Case Report

A 19-year-old man presented to the emergency room with a worsening headache of four days’ duration, associated with confusion, nausea, and vomiting. The headache was described as throbbing and was located in the frontal region. No blurred vision, fever, chills, weakness, neck stiffness, or recent trauma were elicited from the patient’s history. No recent dental procedures or human immunodeficiency (HIV) risk factors were reported. The patient indicated a 4-pack year history of tobacco use and...

(continued next page)

Key Points
## Top 20 Diagnoses for Level I and Level II ED Visits 2013-2014

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>ED Visits</th>
<th>Percentage of Total ED Visits</th>
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<tbody>
<tr>
<td>DENTAL DISORDER NOS</td>
<td>559</td>
<td>8.67%</td>
</tr>
<tr>
<td>ACUTE PHARYNGITIS</td>
<td>219</td>
<td>3.40%</td>
</tr>
<tr>
<td>OPEN WOUND OF FINGER</td>
<td>213</td>
<td>3.30%</td>
</tr>
<tr>
<td>DENTAL CARIES NOS</td>
<td>209</td>
<td>3.24%</td>
</tr>
<tr>
<td>DERMATITIS NOS</td>
<td>177</td>
<td>2.75%</td>
</tr>
<tr>
<td>CHRONIC PAIN NEC</td>
<td>168</td>
<td>2.61%</td>
</tr>
<tr>
<td>ACUTE URI NOS</td>
<td>116</td>
<td>1.80%</td>
</tr>
<tr>
<td>OTITIS MEDIA NOS</td>
<td>93</td>
<td>1.44%</td>
</tr>
<tr>
<td>NONSPECIFIC SKIN ERUPT NEC</td>
<td>92</td>
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</tr>
<tr>
<td>ISSUE REPEAT PRESCRIPT</td>
<td>88</td>
<td>1.36%</td>
</tr>
<tr>
<td>CELLULITIS OF ARM</td>
<td>84</td>
<td>1.30%</td>
</tr>
<tr>
<td>PERIAPICAL ABSCESS</td>
<td>82</td>
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</tr>
<tr>
<td>LUMBAGO</td>
<td>80</td>
<td>1.24%</td>
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<tr>
<td>CONJUNCTIVITIS NOS</td>
<td>79</td>
<td>1.23%</td>
</tr>
<tr>
<td>CELLULITIS OF LEG</td>
<td>77</td>
<td>1.19%</td>
</tr>
<tr>
<td>INFECTED OTITIS EXTERNA NOS</td>
<td>73</td>
<td>1.13%</td>
</tr>
<tr>
<td>ALLERGY, UNSPECIFIED</td>
<td>71</td>
<td>1.10%</td>
</tr>
<tr>
<td>TOXIC EFFECT VENOM</td>
<td>68</td>
<td>1.05%</td>
</tr>
<tr>
<td>OPEN WOUND OF HAND</td>
<td>68</td>
<td>1.05%</td>
</tr>
<tr>
<td>SCABIES</td>
<td>62</td>
<td>0.96%</td>
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</table>
PATIENT DEMOGRAPHICS
2013 - 2014

Age Groups for Emergency Dept Visits for NEDC

Age Groups for Emergency Dept Visits for NEDC
100 Million Prescription Opioids Go Unused

Study examines prescription opioid use and disposal
Dentists are no longer the 2\textsuperscript{nd} largest group of prescribers of Opioids.

Dentists now rank 6\textsuperscript{th}!
GENESIS OF OPIATE EPIDEMIC

• 1996 – great deal of public pressure

• Congress and medical organizations lobbied because millions of people had chronic pain and we were undertreating them
• Pressure to make pain the 5th Vital Sign

• Resultant collective effort to manage people's chronic pain

• Inappropriate attempts to employ acute pain management principles to chronic pain situations

• 4 out of 5 people who abuse heroin started with Rx opioids
3 Waves of the Rise in Opioid Overdose Deaths

- **Wave 1:** Rise in Prescription Opioid Overdose Deaths
- **Wave 2:** Rise in Heroin Overdose Deaths
- **Wave 3:** Rise in Synthetic Opioid Overdose Deaths

**Other Synthetic Opioids**
- e.g., Tramadol and Fentanyl, prescribed or illicitly manufactured

**Commonly Prescribed Opioids**
- Natural & Semi-Synthetic Opioids and Methadone

**Heroin**

**Deaths per 100,000 population**

**SOURCE:** National Vital Statistics System Mortality File.

CDC: Opioid overdose epidemic ‘continues to worsen’ in country; masslive.com
The United States consumes 99% of the world’s hydrocodone/acetaminophen combinations. 

There are NO references or research on the effectiveness of hydrocodone as a pain medication.

The United States represents 4.4% of the world’s population.
COMMENTARY

Why do we prescribe Vicodin?

Vicodin, a fixed-dose combination analgesic containing acetaminophen, or N-acetyl-p-aminophenol, (APAP) and hydrocodone, is the most frequently recommended opioid pain reliever prescribed by US oral surgeons after the extraction of third molars. It was first introduced to the US market in 1976, and today, APAP-hydrocodone combinations (for example, Vicodin, Norco, Lortab, and Zydol) have the dubious reputation of being our nation’s most frequently prescribed analgesics, as well as our nation’s most frequently abused prescription drugs. 

Surprisingly, we could find no references in the literature in which investigators found APAP-hydrocodone combinations, as currently prescribed and formulated, to be more effective than nonsteroidal anti-inflammatory drugs (NSAIDs).

The analgesic efficacy of even the most common over-the-counter NSAIDs such as ibuprofen and naproxen sodium first became recognized in the 1970s. Unlike APAP, NSAIDs are potent inhibitors of prostaglandin synthesis and target the inflammatory pain encountered with acute infection.

If nonsteroidal anti-inflammatory analgesics are at least as effective as acetaminophen-opioid pain relievers and have lower incidences of adverse effects, why do we prescribe acetaminophen-opioid pain relievers for patients?

Tissue injury, and surgical trauma. Consequently, when treating inflammatory pain, NSAIDs consistently have been shown to be more effective than APAP. In 2013, investigators of a evidence-based Cochrane systematic reviews of oral analgesics assessed the efficacy and adverse effects of nearly all oral analgesic formulations. These comprehensive meta-analyses included results from 350 individual randomized clinical trials in which investigators assessed data in more than 45,000 participants undergoing both dental and medical surgical procedures. The findings of these and other comprehensive reviews unequivocally confirm 2 major conclusions: NSAIDs are remarkably effective analgesics for relieving postoperative pain, and the opioid analgesic combinations are associated with higher incidences of adverse effects (nausea, vomiting, constipation, and so on). And of no less importance, relying on NSAID analgesics rather than opioid pain relievers does not add to our nation’s ongoing prescription opioid abuse epidemic.
The USA consumes 80% of all opiates used in the world.
83% of the world’s population has **NO ACCESS** to any opioids
THE RESULT

On an average day in the U.S.:

- More than 650,000 opioid prescriptions dispensed\(^1\)
- 3,900 people initiate nonmedical use of prescription opioids\(^2\)
- 580 people initiate heroin use\(^2\)
- People die from an opioid-related overdose\(^3\)

*Opioid-related overdoses include those involving prescription opioids and illicit opioids such as heroin

Source: IMS Health National Prescription Audit\(^1\) / SAMHSA National Survey on Drug Use and Health\(^2\) / CDC National Vital Statistics System\(^3\)

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Overdose Deaths Involving Opioids, United States, 2000-2015

- Any Opioid
- Commonly Prescribed Opioids (Natural & Semi-Synthetic Opioids and Methadone)
- Heroin
- Other Synthetic Opioids (e.g., fentanyl, tramadol)

Where do all of the pain meds come from?

The majority of…these misused prescription opioids are coming form legally written prescriptions,” former Surgeon General Murthy.

A recent survey by the National Safety Council revealed that about 99 percent of physicians exceeded the recommended three-day dosage limit, with a quarter of them writing prescriptions for a full month and thus overprescribing these types of medications.

According to the CDC, 44 people die every day in the United States from overdose of prescription painkillers.
U.S. Response to Opioid Crisis

August 2016
Former U.S. Surgeon General
Vivek H. Murthy, MD. MBA

1. Educate providers to treat pain safely and effectively
2. Screen patients for opioid use disorders, and connect patients with positive screens to evidence-based treatment
3. View addiction as a chronic illness not a moral failing
IMAGING EVIDENCE OF THE BRAIN DISEASE

Decreased Brain Metabolism in Drug Abuse Patient

Control  Cocaine Abuser

Decreased Heart Metabolism in Heart Disease Patient

Healthy Heart  Diseased Heart

Sources: From the laboratories of Drs. N. Volkov and H. Schelbert

Dopamine D2 Receptors Are Lower in Addiction

Cocaine  Meth  Alcohol  Heroin

Control  Addicted

DA D2 Receptor Availability
Mercy’s Response to Opioid Crisis

- Prevent entry
- Screen early and often
- Treat those in need
- Harm reduction
Mercy Opiate Initiatives

- Steering Committee
- Opioid Prescribing Operations/Cube Quality Improvement Committee
- Opioid Education Council
- Regional Opioid Safety Advisory Team
- Opioid Care Path Team
- Opioid Reporting Touchbase Team
- Regional Opioid Dyad Team
Clinical Operations Performance Report (COPR)

Key Performance Indicators (KPI)

Reducing Opioid Dependency
## Reducing Opioid Dependency

**Barry Shick**  **Dr. Frank Beck**  **Paul Homick**

<table>
<thead>
<tr>
<th>Type</th>
<th>Measure</th>
<th>YTD Target</th>
<th>YTD Actual</th>
<th>Achieved?</th>
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<td>Preventive (lower is better)</td>
<td>% Morphine Equivalent</td>
<td>13.54%</td>
<td>9.33%</td>
<td>✓</td>
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<tr>
<td></td>
<td>Opioid Burden</td>
<td>36.05</td>
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<td>Educational (higher is better)</td>
<td>SBIRT Screening</td>
<td>22,917</td>
<td>53,689</td>
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<td>School Partnerships</td>
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<td>✓</td>
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### Stretch Goal Achieved

*Target Goal achieved if two metrics with at least one preventive goal are met.*

**Stretch Goal achieved if three metrics with both preventive goals are met.*
2018 Legacy Mercy Results

- Opioid Burden Rate – 29.5% Decrease
- Acute Opioid Prescriptions > 30 MEDD – 25.3% Decrease
- Reduction in Opioids as a Percent of all Meds – 19.7% Decrease
- Rate of Opioid and Concurrent Benzodiazepine – 11.9% Decrease
- Acute Opioid > 7 Days Length of Therapy – 38.8% Decrease
- Acute Opioid Prescriptions > 80 MEDD – 13.6% Decrease
### Goal 2019

#### Goal for 2019 (revised metric methodology for MEDD GT30)

<table>
<thead>
<tr>
<th>Visit System</th>
<th>Rate MEDD GT30 to Acute Opioid Orders 2019</th>
<th>Rate MEDD GT30 Target 2019</th>
<th>Opioid Burden Rate 2018</th>
<th>Opioid Burden Rate Target 2019</th>
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</thead>
<tbody>
<tr>
<td>Ministry</td>
<td>11.76%</td>
<td>11.76%</td>
<td>41.10</td>
<td>41.10</td>
</tr>
<tr>
<td>Kentucky</td>
<td>24.17%</td>
<td>24.17%</td>
<td>127.59</td>
<td>127.59</td>
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<tr>
<td>Lima</td>
<td>7.86%</td>
<td>7.86%</td>
<td>36.02</td>
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<tr>
<td>Lorain</td>
<td>6.68%</td>
<td>6.68%</td>
<td>38.11</td>
<td>38.11</td>
</tr>
<tr>
<td>Springfield</td>
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<td>Toledo</td>
<td>9.94%</td>
<td>9.94%</td>
<td>51.70</td>
<td>51.70</td>
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<tr>
<td>Youngstown</td>
<td>9.19%</td>
<td>9.19%</td>
<td>18.98</td>
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#### Rate: Morphine Equivalent Daily Dose (MEDD) > 30 to Opioid Orders for Acute Pain (revised metric methodology) (2019)

<table>
<thead>
<tr>
<th>Order Mo</th>
<th>Visit System</th>
<th>Jan Actual</th>
<th>VTT</th>
<th>Feb Actual</th>
<th>VTT</th>
<th>Mar Actual</th>
<th>VTT</th>
<th>Total Actual</th>
<th>VTT</th>
</tr>
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<tbody>
<tr>
<td>Ministry</td>
<td></td>
<td>11.18%</td>
<td>0.58%</td>
<td>10.32%</td>
<td>1.44%</td>
<td>10.58%</td>
<td>1.17%</td>
<td>10.72%</td>
<td>1.04%</td>
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<tr>
<td>Cincinnati</td>
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<td>13.80%</td>
<td>0.43%</td>
<td>12.49%</td>
<td>1.74%</td>
<td>13.28%</td>
<td>0.95%</td>
<td>13.22%</td>
<td>1.01%</td>
</tr>
<tr>
<td>Kentucky</td>
<td></td>
<td>23.17%</td>
<td>1.00%</td>
<td>24.01%</td>
<td>0.16%</td>
<td>24.96%</td>
<td>-0.79%</td>
<td>24.01%</td>
<td>0.16%</td>
</tr>
<tr>
<td>Lima</td>
<td></td>
<td>5.33%</td>
<td>2.54%</td>
<td>4.44%</td>
<td>3.42%</td>
<td>6.22%</td>
<td>1.64%</td>
<td>5.31%</td>
<td>2.56%</td>
</tr>
<tr>
<td>Lorain</td>
<td></td>
<td>5.68%</td>
<td>1.00%</td>
<td>6.51%</td>
<td>0.17%</td>
<td>5.37%</td>
<td>1.31%</td>
<td>5.84%</td>
<td>0.84%</td>
</tr>
<tr>
<td>Springfield</td>
<td></td>
<td>8.04%</td>
<td>-1.38%</td>
<td>7.44%</td>
<td>-0.18%</td>
<td>6.70%</td>
<td>0.57%</td>
<td>7.65%</td>
<td>-0.35%</td>
</tr>
<tr>
<td>Toledo</td>
<td></td>
<td>10.82%</td>
<td>-0.88%</td>
<td>8.26%</td>
<td>1.68%</td>
<td>8.11%</td>
<td>1.82%</td>
<td>9.17%</td>
<td>0.77%</td>
</tr>
<tr>
<td>Youngstown</td>
<td></td>
<td>7.68%</td>
<td>1.51%</td>
<td>8.20%</td>
<td>0.99%</td>
<td>7.60%</td>
<td>1.60%</td>
<td>7.82%</td>
<td>1.37%</td>
</tr>
</tbody>
</table>

#### Rate: Morphine Equivalent to Unique Patient (2019)

<table>
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<th>Visit System</th>
<th>Jan</th>
<th>VTT</th>
<th>Feb</th>
<th>VTT</th>
<th>Mar</th>
<th>VTT</th>
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## Legacy Mercy 1\textsuperscript{st} Quarter Goal – Maintain 2018 SBIRTS

2018 System 1\textsuperscript{st} Quarter: 25,046

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<th>JUL</th>
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</table>
2019 Healthcare Innovator Awards

- Pairing of an analytics platform
- Changes to EHR tools
- Data driven approach
- Reshape providers’ opioid prescribing behaviors
Figure illustrates the percentage of all prescriptions that were an opioid in nature from market emergency departments. Data represents first six-months of initiative year (2017) compared to same time frame of the year prior to intervention (2016).
EHR Inpatient Opioid Prescribing

• 13% reduction in total opioid orders
• 22% reduction in rate of opioid orders
• 43% reduction in rate of supply > 7 days
2018 HIMSS Davies Award

• Create funds to identify at-risk patients
• Encourage early treatment referrals
• Embed best-practice
• Establish data analysis cube to evaluate prescribing practices alerts (BPAs)
Mercy Opioid Education
Prescriber Learning Modules

1. Intro to Opioid Reduction
2. CarePath tools Part 1
3. CarePath tools Part 2
4. Alternatives to Opioids
5. Emergency medicine principles
6. Treatment of Patients with Opioid Addiction

Vimeo Site: https://vimeo.com/album/5263195
Opioids and acute pain

All studies on opioids used for acute pain have shown that the longer they are used, the worse the outcomes!

The CDC recommends 3 days or less for acute pain.
• Opioids are not very effective pain medications

• Opioids do lead to addiction

• We must avoid the first exposure (age 18)

• Use opioids for their behavioral effects (calming) when absolutely necessary and for only 1-3 days
Pain Management Strategies

• Initiation
  o Peripheral pain receptor – nociceptor
    ▪ NSAIAAs
• Transmission
  o Nerve fibers and spinal cord
    ▪ Local anesthesia
• Integration
  o CNS/ Brain – pain perception and pain reaction
    ▪ Opioids
• Modulation
  o Pain inhibitory pathways in brain and spinal cord
    ▪ TCA’s
Pain Management Strategies

Pre operative

Peri operative

Post operative
PRE-OPERATIVE

- Start an NSAID 24 hours prior to procedure
- 600 mg ibuprofen q.i.d.
- 400 mg celecoxib
Consider prescribing a corticosteroid for your patient

- If pain and/or swelling develop or persist post-op, it is reasonable to consider prescribing a corticosteroid (assuming swelling is not due to infection)
- Edema from surgery usually peaks at 48-72 hours
- Note that corticosteroids can be prescribed preemptively when severe pain and significant swelling are anticipated post-operatively
- Rx Dexamethasone 4 mg, 4 tabs
- Rx Take two tabs stat in the AM, then one tab next day, and a final tab on the 3rd day
- This dose can be halved for younger or older patients
- If preferred, it is not necessary to take a loading dose of the steroid
Peri Operative

- Use bupivacaine during or at the end of procedure.
- Must be given as a block
- Exparel
Effectiveness of Postoperative Analgesics

NNT
NNT

- The medication with the lowest NNT will be the most efficacious

- Oral pain medications
  - NNT of 1.5 = excellent
  - NNT of 2.0 = good
  - NNT of 2.5 = fair
### NNT Comparison of Orally Administered Analgesics

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<tr>
<th>Analgesic</th>
<th>NNT</th>
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<tr>
<td>Ibuprofen 400 mg/APAP 1000 mg</td>
<td>1.5</td>
</tr>
<tr>
<td>Ibuprofen 200 mg/APAP 500 mg</td>
<td>1.6</td>
</tr>
<tr>
<td>Ketoprofen 100 mg</td>
<td>1.6</td>
</tr>
<tr>
<td>Ibuprofen 600 mg/800 mg</td>
<td>1.7</td>
</tr>
<tr>
<td>Analgesic</td>
<td>NNT</td>
</tr>
<tr>
<td>-----------------------------------</td>
<td>-----</td>
</tr>
<tr>
<td>Ketorolac</td>
<td>1.8</td>
</tr>
<tr>
<td>Oxycodone 5 mg/ APAP 500 mg*</td>
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</tr>
<tr>
<td>Aspirin 1200 mg</td>
<td>2.4</td>
</tr>
<tr>
<td>Ibuprofen 400 mg</td>
<td>2.5</td>
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<tr>
<td>Analgesic</td>
<td>NNT</td>
</tr>
<tr>
<td>-----------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>Oxycodone 10 mg/APAP 650 mg (2 Percocet)</td>
<td>2.7</td>
</tr>
<tr>
<td>Oxycodone 10 mg/1000 mg*</td>
<td>2.7</td>
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<tr>
<td>Naproxen 40 mg/440 mg</td>
<td>2.7 (2.3)</td>
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<tr>
<td>Naproxen 500 mg/550 mg</td>
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Efficacy of pain medications
Acute pain\textsuperscript{26,27}

Percent with 50% pain relief

<table>
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<tr>
<th>Medication</th>
<th>Percentage</th>
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<tr>
<td>Ibuprofen 200 mg</td>
<td>37</td>
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<tr>
<td>Acetaminophen 500 mg</td>
<td>28</td>
</tr>
<tr>
<td>Ibuprofen 400 mg</td>
<td>40</td>
</tr>
<tr>
<td>Oxycodone 15 mg</td>
<td>21</td>
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<tr>
<td>Oxy 10 + acet 1000</td>
<td>37</td>
</tr>
<tr>
<td>Ibu 200 + acet 500</td>
<td>62</td>
</tr>
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</table>
Sources

- The Oxford Pain Group League table for analgesic efficacy
- Cochrane Database of Systematic Reviews
Relevance
From 2S Medical Education

330 480 6601
01/12/2016 13:26
#981 P.001/003


YOUNGSTOWN HOSPITAL
Department of Medical Education
1044 Belmont Ave PO Box 1780
Youngstown, OH 44501-1780
Phone: 330 456 9600
Fax: 330 456 9601
E-mail: stelizabeth@mercy.com


January 8, 2016

Dr. Kennedy,

Nice to talk to you today. I have asked both the family medicine and dental residency to do a joint M & M for a recent patient. While norepinephrine and a very significant CAD history were significant, I thought both programs could learn something from a discussion of the case. Attached please find the patient information...

...He was a patient of record in both the dental and family medicine residencies. Any records from the past, etiology or cause of death would be appreciated and used for the M & M. I appreciate the consideration.

Wishing you the best in the New Year.

David Gershon, Ph.D.
Director of Medical Education 
Phone: 330 480 3690
e-mail: david.gershon@mercy.com
fax: 330 480 6601

cc: Bock, Kraft

sll/dig

Atttn: April
Laboratory Case Number: 10918 / MAKC18

Physician: Reporting Co. Coroner's Office
ATTN: Dr. M. Kennedy, M.D.
346 Oak Hill Rd. Suite 200 Bldg. F
Youngstown, OH 44502-1482
P: 330/392-4669

Agency Case #: 5555
Date of Death: 11/25/2015
Test Reason: Other
Investigator: J.B. Peppas
Date Received: 12/05/2015
Date Reported: 01/06/2016

Laboratory Specimen No: D67166
Container(s): DBS
Blood, PEUDRUMAL

Date Collected: 1/27/2016 11:10
Test(s): Comprehensive Drug Panel

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<td>BENZODIAZEPINES</td>
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*Analytes is qualitatively positive, but not been confirmed by an alternate analytical method.*

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<th>Units</th>
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Specimen will be kept for at least one year from the date of initial report.
SBIRT Introduction / Integration
What is SBIRT? – Acronym for:

- **Screening**: quick validated screen to determine severity of substance use.
- **Brief Intervention**: collaborative conversation that increases patient motivation for change
- **Referral to Treatment**: directly links patients with appropriate services.

*Evidence based*
Rethinking Substance Use Problems

A Public Health Problem
SBIRT as a vital sign

- Routine screening for other potential medical problems (e.g. cancer, diabetes, high blood pressure)
- Why not for alcohol and drug use?
- Adding a validated screening tool to medical history/annual review
Primary Goal of SBIRT

- To identify those who are at moderate or high risk for psychosocial or health care problems related to their substance use choices.

- To identify those who have a substance use disorder and need higher levels of care.
When Screening, It’s Useful To Clarify What One Drink Is!
A Standard Drink

12 fl oz of beer = 4-5 fl oz of wine = 1.5 fl oz of 80 proof liquor

National Institute on Alcohol Abuse and Alcoholism (NIAAA)
## Lower Risk Drinking Limits

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<th>Per Day</th>
<th>Per Week</th>
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<tr>
<td><strong>Women</strong></td>
<td>&gt; 3</td>
<td>&gt; 7</td>
</tr>
<tr>
<td><strong>Men</strong></td>
<td>&gt; 4</td>
<td>&gt; 14</td>
</tr>
<tr>
<td><strong>Men (over 65)</strong></td>
<td>&gt; 3</td>
<td>&gt; 7</td>
</tr>
</tbody>
</table>
Two Levels of Screening

Pre-screen: For Everyone/Universal

One or two questions to help filter individuals that will be most likely to “screen positive” on a full screen.

“How many times in the past year have you had…”

...5 or more drinks in a day (men)
...4 or more drinks in a day (women)

“How many times in the past year have you used a recreational drug or prescription medication for nonmedical reasons?”

Time saving measure when time is limited.

A “positive” pre-screen indicates the need to administer the full screening tool.

Full Screen: After Positive Pre-Screen

The full screening tool provides information about the patient’s level of substance use risk and the appropriate next steps:

Brief Intervention
or
Referral to Treatment
AUDIT
Alcohol Use Disorders Identification Test

- Developed by World Health Organization (WHO)
- Evaluated over 20 years
- Accurate measure of risk across gender, age and cultures
- 3 domains of drinking (hazardous use, dependence symptoms and harmful consequences)
- Scores 8 > indicate risky drinking (give BNI)
- Scores 20 > may indicate need for treatment
**Alcohol screening questionnaire (AUDIT)**

Drinking alcohol can affect your health and some medications you may take. Please help us provide you with the best medical care by answering the questions below.

One drink = 12 oz. beer, 5 oz. wine, 1.5 oz. liquor (one shot)

<table>
<thead>
<tr>
<th>Question</th>
<th>Never</th>
<th>Monthly or less</th>
<th>2–4 times a month</th>
<th>2–3 times a week</th>
<th>4 or more times a week</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. How often do you have a drink containing alcohol?</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>2. How many drinks containing alcohol do you have on a typical day when you are drinking?</td>
<td></td>
<td></td>
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<tr>
<td>3. How often do you have four or more drinks on one occasion?</td>
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<td></td>
<td></td>
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</tr>
<tr>
<td>4. How often during the last year have you found that you were not able to stop drinking once you had started?</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>5. How often during the last year have you failed to do what was normally expected of you because of drinking?</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>6. How often during the last year have you needed a first drink in the morning to get yourself going after a heavy drinking session?</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>7. How often during the last year have you had a feeling of guilt or remorse after drinking?</td>
<td></td>
<td></td>
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<tr>
<td>8. How often during the last year have you been unable to remember what happened the night before because of your drinking?</td>
<td></td>
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</tr>
<tr>
<td>9. Have you or someone else been injured because of your drinking?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Has a relative, friend, doctor, or other health care worker been concerned about your drinking or suggested you cut down?</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

Name: __________________________________________
Date of Birth: ________________________________
# AUDIT(10) Interpretation

<table>
<thead>
<tr>
<th>Score</th>
<th>Zone</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 7</td>
<td>I – Low Risk</td>
<td>Positive reinforcement</td>
</tr>
<tr>
<td>8 - 15</td>
<td>II - Risky</td>
<td>Brief intervention</td>
</tr>
<tr>
<td>16 - 19</td>
<td>III - Harmful</td>
<td>Brief intervention or referral to specialized treatment</td>
</tr>
<tr>
<td>20+</td>
<td>IV - Severe</td>
<td>Referral to specialized treatment</td>
</tr>
</tbody>
</table>
Drug screening questionnaire (DAST)

Using can affect your health and adversely interact with some medications you may take. Please help us provide you with the best medical care by answering the questions below.

When the words “drug abuse” are used, they mean the use of prescribed or over-the-counter medications used in excess of the directions and any non-medical use of any drugs. The various classes of drugs may include but are not limited to: cannabis (marijuana, hash); solvents (gas, paints); tranquilizers (Valium); barbiturates, cocaine, and stimulants (speed); hallucinogens (LSD); or narcotics (heroin). Remember that the questions do not include alcohol or tobacco.

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Have you used drugs other than those required for medical reasons?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Do you abuse more than one drug at a time?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Are you unable to stop using drugs when you want to?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Have you ever had blackouts or flashbacks as a result of drug use?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Do you ever feel bad or guilty about your drug use?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Does your spouse (or parent) ever complain about your involvement with drugs?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Have you neglected your family because of your use of drugs?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Have you engaged in illegal activities in order to obtain drugs?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Have you ever experienced withdrawal symptoms (felt sick) when you stopped taking drugs?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Have you had medical problems as a result of your drug use (e.g., memory loss, hepatitis, convulsions, bleeding etc…)?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Score</td>
<td>Zone</td>
<td>Action</td>
</tr>
<tr>
<td>---------------</td>
<td>---------------</td>
<td>----------------------------------------------------------</td>
</tr>
<tr>
<td>0 - 2, plus no daily use of any substance, no weekly use of opioids, cocaine or meth; no injection drug use in the past 3 months; not currently in substance abuse treatment</td>
<td>I - Low Risk</td>
<td>Brief Education: monitor and reassess at next visit</td>
</tr>
<tr>
<td>3 - 5</td>
<td>II - Risky</td>
<td>Brief Intervention</td>
</tr>
<tr>
<td>6 – 8</td>
<td>II - Harmful</td>
<td>Brief intervention or referral to specialized treatment</td>
</tr>
<tr>
<td>9+</td>
<td>IV - Severe</td>
<td>Referral to specialized treatment</td>
</tr>
</tbody>
</table>
Rethinking Substance Use Problems From a Public Health Perspective

- No Use/Abstinence
- Low Risk Use
- Risky Use
- Harmful Use
- Substance Use Disorder

Early Intervention SBIRT
Screening Informs the SBIRT Process

- Dependent Use: 5% (Referral to Treatment)
- Harmful Use: 20% (Brief Intervention/possible Referral to Treatment)
- At-Risk Use: 35% (Brief Intervention)
- Low Risk: 40% (No intervention)
What Are Brief Interventions

Brief motivational and awareness-raising interventions given to at-risk or harmful substance users.

Goal is to help patients decide to lower their risk for alcohol-related problems.
Key Concepts

Brief intervention is based on two interrelated and critical elements:

- **Stages of Change**
  Recognizing and addressing where patients are in the process is critical to facilitate behavior change.

- **Motivational Interviewing**
  Intervention techniques to help patients move through stages of change
Encouraging Motivation to Change

- Do I listen more than I talk?
- Do I ask permission to give my feedback?
- Do I seek to understand this person?
- Do I value this person’s opinion more than my own?
- Do I remind myself that this person is capable of making his/her own choices?
Brief Intervention Steps

1. Raise the Subject
2. Provide Feedback
3. Enhance Motivation
4. Negotiate a Plan
Referral to Treatment
A Strong Referral to Appropriate Treatment Provider is Key

When your patient is ready:

• Know your local resources
• Make a plan with the patient
• You should actively participate in the referral process
• Decide how you will communicate with the provider
• Confirm your follow up plan with the patient
• Decide on ongoing follow up support strategies that you will use
• Direct warm handoff
Prescription Drug Monitoring Programs (PDMP)
In 2017, the number of opioid doses* and prescriptions dispensed to Ohio patients continued to decrease. Total doses of opioids decreased from a high of 793 million in 2012 to 568 million in 2017, a 28.4 percent decrease (Chart #1). The total number of opioid prescriptions decreased by 3.3 million between 2012 and 2017, a 26.2 percent decrease (Chart #2).
Chart #2 - Opioid Prescriptions Dispensed to Ohio Patients, by Year

<table>
<thead>
<tr>
<th>Year</th>
<th># of Rx In Millions</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>12.5</td>
</tr>
<tr>
<td>2012</td>
<td>12.6</td>
</tr>
<tr>
<td>2013</td>
<td>12.4</td>
</tr>
<tr>
<td>2014</td>
<td>12.2</td>
</tr>
<tr>
<td>2015</td>
<td>11.2</td>
</tr>
<tr>
<td>2016</td>
<td>10.1</td>
</tr>
<tr>
<td>2017</td>
<td>9.3</td>
</tr>
</tbody>
</table>

*Solid dosage units only (eg, tablets, capsules and patches). Liquids and powders are not included.*
The number of patient queries in OARRS increased from 1.78 million in 2011 to 88.96 million in 2017, an increase of 4,900 percent (see Chart #5). Conversely, the number of individuals who see multiple prescribers in order to obtain controlled substances illicitly (commonly referred to as “doctor shopping”) decreased from 2,205 in 2011 to 273 in 2017, a decrease of 88 percent (see Chart #6).
Chart #6 - Total Doctor Shoppers*, by Year

*In this chart, a doctor shopper is defined as an individual receiving a prescription for a controlled substance from five or more prescribers in one calendar month.
Prescribing for the Adolescent Patient
Percentage of Prescriptions Dispensed for Opioid Analgesics From Outpatient US Retail Pharmacies, 2009\textsuperscript{59}
90% of Those Hooked on Alcohol, Tobacco, or Drugs Started Using Them Before Age 18

25% of Americans who began using any addictive substance before age 18 are addicted.

Only 4% of Americans who started using an addictive substance when they were 21 or older are addicted.
Acute rx leads to long-term use\textsuperscript{47}

Duration of acute use:
1 day - 6\% chance of still using that drug a year later.
8 days - 13.5\%.
31 days - 29.9\%.
Prescription Opioids in Adolescence and Future Opioid Misuse

Richard Miech, PhD\textsuperscript{a}, Lloyd Johnston, PhD\textsuperscript{a}, Patrick M. O’Malley, PhD\textsuperscript{a}, Katherine M. Keyes, PhD\textsuperscript{b}, Kennon Heard, MD\textsuperscript{c}

Teens who received a prescription for opioid pain medication by Grade 12 were at 33 percent increased risk of misusing an opioid between ages 19 and 25.

Among those with low predicted risk of future opioid use in 12th grade, having an opioid prescription increased their risk of post-high-school opioid misuse three-fold.
Prescribing for the Pediatric Patient
NAME:______________________________________________
DOB:________________________
ADDRESS:__________________________________________
DATE:_______________________

RX  Ibuprofen 800 mg
    Sig: Take + ibuprofen 800 mg
    with ++extra strength Tylenol (1000 mg)
    qid for 3 days
    Disp: 20/ twenty tabs
    DIAGNOSIS:_________________________
    DAY’s SUPPLY: 5 days

Refills 0   DEA#

Diagnoses ICD

Dental Procedural Code (CDT)
NAME:______________________________________________
DOB:_____________________________
ADDRESS:__________________________________________
DATE:__________________________________________

RX Oxycodone 5/325 mg
Sig: Take + tab with regular
Tylenol q 4-6 hr prn pain
Disp: 12/ twelve tabs
DIAGNOSIS:__________________________________________
DAY's SUPPLY: 3 days
Refills 0

Diagnoses ICD
K 02.9 dental caries
K 04.7 dental abscess
K 05.6 periodontal disease
K 01.1 impacted tooth

Dental Procedural Code (CDT)
NAME:______________________________________________
DOB:________________________
ADDRESS:__________________________________________
DATE:_______________________

**RX**
Norco 5/325 mg
Sig: Take + tab with regular Tylenol q 4-6 hr prn pain
Disp: 12/ twelve tabs
DIAGNOSIS:_________________________
DAY’s SUPPLY: 3 days

Refills 0

Diagnoses ICD
K 02.9 dental caries
K 04.7 dental abscess
K 05.6 periodontal disease
K 01.1 impacted tooth

Dental Procedural Code (CDT)
How would I know (and what should I do) when a patient has a drug problem?

The ADA encourages dentists to seek continuing education in Screening, Brief Intervention, and Referral to Treatment (SBIRT) for patients who may be at risk for substance abuse and/or be prone to addiction.

SBIRT is an evidence-based practice used to identify, reduce, and prevent problematic use, abuse, and dependence on alcohol and illicit drugs. It is comprised of three basic components.

- **Screening** – Specialized techniques for identifying risky substance use behaviors.
- **Brief Intervention** – Specialized techniques for motivating at-risk individuals to change their behavior.
- **Referral to Treatment** – Specialized techniques for referring these patients for appropriate diagnosis and treatment (e.g., support line, addiction counselor, treatment facility, etc.)

SBIRT is based on an Institute of Medicine recommendation* that called for community-based screening for health risk behaviors.

ADA Practical Guide to Substance Use Disorders and Safe Prescribing
SAMHSA.gov/sbirt
Alternatives to Opioids
Patient Counseling/Education
Set Expectations

“Some discomfort is normal... in fact, you can use it as a barometer of your post-op healing progress.”
Set Norms

“More than half the patients who have this procedure take less than 6 pills.”
**NNTs**

“We know, without question, the most effective ways to manage your post-op course, and more importantly, we have a rank order of the effectiveness of pain medications known as NNTs.”
Non-Opioids

“The most effective pain medication we have is a combination drug with an NNT of 1.5 (1.0 NNT would represent the perfect pain medication) we do not have one of those, however, taking 1000mg of APAP along with 600-800 mg of ibuprofen around the clock for 3 days provides the most effective relief in a therapeutic fashion.”
Opioids

“Occasionally opioids are used to alter perception and reaction to your discomfort...unfortunately, they are not therapeutic and must be used along with the non-opioids to achieve adequate pain relief.”
Appropriate Use

“Because therapeutic pain relief comes from the non-opioid medications...2/3 of patients find they do not need to take all of the prescribed opioids.”

Please dispose of any unused pills:
- Drug take back boxes
- Deterra bags
Adverse Affects

“We are careful about opioids because they have been shown to be ineffective in managing post-op pain...are highly addictive, will cause you harm and could even result in overdose if used incorrectly or abused.”
Preoperative/Perioperative Pain Management

“All studies show that post-op pain is best managed preoperatively and perioperatively...Fortunately, we began your pain management course preoperatively and just gave you a perioperative long-acting local anesthetic to prolong your comfort level and minimize your post-op pain.”
Safe Disposal

“Disposing of these pills prevents others, including children, from accidentally overdosing...you can take the leftover pills to one of our takeback boxes or use the Deterra bag provided.”
Resources

www.mha.ohio.gov
GCOAT – Opiate Action Team
www.samhsa.gov/sbirt
www.oacbha.org
www.sbirtoregon.org
www.centerforebp.case.edu
www.motivationalinterviewing.org
www.ireta.org