THE OPIOID EPIDEMIC BY THE NUMBERS
2016 and 2017 Data

130+
People died every day from opioid-related drug overdoses¹ (estimated)

11.4 m
People misused prescription opioids¹

42,249
People died from overdosing on opioids²

2 million
People misused prescription opioids for the first time¹

2.1 million
People had an opioid use disorder¹

17,087
Deaths attributed to overdosing on commonly prescribed opioids²

886,000
People used heroin¹

19,413
Deaths attributed to overdosing on synthetic opioids other than methadone²

81,000
People used heroin for the first time¹

15,469
Deaths attributed to overdosing on heroin²

Sources
2. NCHS Data Brief No. 263, December 2017

Updated September 2018. For more information, visit http://www.hhs.gov/opioids/
Perspective

- Peak gun deaths (1993): 40,000
- Peak HIV deaths (1995): 49,600
- Peak car crash deaths (1972): 54,589
- Breast cancer deaths (2017): 40,610
- Drug overdose deaths (2017): 72,287
- Opioid related deaths: 49,060

Total: 72,287
Rates for drug-poisoning deaths involving heroin, by selected age groups: United States, 2000–2013
COURTESY CDC
Overdose Deaths Involving Opioids, MI 1999-2015

- Any Opioid
- Heroin
- Other Synthetic Opioids
- Commonly Prescribed Opioids
THE PERFECT STORM

PHARMACEUTICAL COMPANIES

PHYSICIAN PRESCRIBING HABITS

THE AMERICAN PEOPLE
Between 1999 and 2010, sales of these “opioid analgesics”—medications like Vicodin, Percocet, and OxyContin—quadrupled.
Rates of Opioid Sales and Overdose Deaths
United States, 1999-2011

Opioid sales¹
Opioid deaths²

1. In kilograms per 10,000 people.  2. Per 100,000 people.
Source: Centers for Disease Control and Prevention.

© 2014 Consumer Reports. All rights reserved
OxyContin Sales, 1996-2014

$3 billion

Source: IMS National Sales Perspectives

@latimesgraphics
In 2007, Purdue Pharma and three of its top executives pleaded guilty to criminal charges that they had misled the F.D.A., clinicians, and patients about the risks of OxyContin addiction and abuse by aggressively marketing the drug to providers and patients as a safe alternative to short-acting narcotics. (Doctors had been taught that because OxyContin was time-released, it wouldn’t cause a high that would lead to addiction.)

PURDUE SUED FOR DECEPTIVE OPIOID MARKETING
PHYSICIAN PRESCRIBING HABITS
Pain: The 5th Vital Sign

0: No Pain
1-3: Mild
4-6: Moderate
7-9: Severe
10: Very Severe
10: Worst Pain Possible
### Our Patient Satisfaction Scores
**HCAHPS Summary Report Jan 2012 - Dec 2012**

<table>
<thead>
<tr>
<th>Service Provided</th>
<th>GRMC</th>
<th>PTDH</th>
<th>USA</th>
<th>NM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Doctors always communicated well</td>
<td>79</td>
<td>81</td>
<td>81</td>
<td>78</td>
</tr>
<tr>
<td>Nurses always communicated well</td>
<td>78</td>
<td>79</td>
<td>78</td>
<td>75</td>
</tr>
<tr>
<td>Patients always received help as soon as they wanted</td>
<td>66</td>
<td>66</td>
<td>67</td>
<td>66</td>
</tr>
<tr>
<td>Pain was always well controlled</td>
<td>69</td>
<td>72</td>
<td>71</td>
<td>69</td>
</tr>
<tr>
<td>Staff always explained about medications before giving them to patients</td>
<td>64</td>
<td>64</td>
<td>64</td>
<td>62</td>
</tr>
<tr>
<td>Room was always clean</td>
<td>73</td>
<td>75</td>
<td>73</td>
<td>70</td>
</tr>
<tr>
<td>Always quiet at night</td>
<td>52</td>
<td>60</td>
<td>60</td>
<td>59</td>
</tr>
<tr>
<td>Yes, staff did give patients information about what to do during their recovery at home</td>
<td>82</td>
<td>86</td>
<td>85</td>
<td>82</td>
</tr>
<tr>
<td>Patients who gave a rating of 9 or 10 out of 10</td>
<td>67</td>
<td>76</td>
<td>70</td>
<td>64</td>
</tr>
<tr>
<td><strong>Yes, patients would definitely recommend the hospital</strong></td>
<td>69</td>
<td>79</td>
<td>71</td>
<td>62</td>
</tr>
</tbody>
</table>
THE AMERICAN PEOPLE & THE AMERICAN WAY
CDC Clinical Reminders for Prescribing Opioids for Chronic Pain

Determining When to Initiate or Continue Opioids for Chronic Pain
- Opioids are not first-line or routine therapy for chronic pain
- Establish and measure goals for pain and function
- Discuss benefits and risks and availability of nonopioid therapies with patient

Opioid Selection, Dosage, Duration, Follow-Up, and Discontinuation
- Use immediate-release opioids when starting
- Start low and go slow
- When opioids are needed for acute pain, prescribe no more than needed
- Do not prescribe extended-release/long-acting opioids for acute pain
- Follow-up and re-evaluate risk of harm; reduce dose or taper and discontinue if needed

Assessing Risk and Addressing Harms of Opioid Use
- Evaluate risk factors for opioid-related harms
- Check prescription drug monitoring program (PDMP) for high dosages and prescriptions from other providers
- Use urine drug testing to identify prescribed substances and undisclosed use
- Avoid concurrent benzodiazepine and opioid prescribing
- Arrange treatment for opioid use disorder if needed

Source: "Guideline for Prescribing Opioids for Chronic Pain," Centers for Disease Control and Prevention
NEJM Catalyst (catalyst.nejm.org) © Massachusetts Medical Society
Opioid Infusion Vortex of Misery

- Brain exposed continuously to high opioid doses
  - Increasing levels of opioid tolerance, causing opioid to be ineffective
  - Opioid dose is up-titrated
  - Uncontrolled pain
  - Opioid paradoxically worsens pain
  - High doses cause Opioid-induced Hyperalgesia
By 2010, the United States, with about 5% of the world’s population, was consuming 99% of the world’s hydrocodone (the narcotic in Vicodin), along with 80% of the oxycodone (in Percocet and OxyContin), and 65% of the hydromorphone (in Dilaudid).
The amount of opioids prescribed per person was three times higher in 2015 than in 1999.

180 MME  
1999 | US

640 MME  
2015 | US

The amount of opioids prescribed per person varied widely among counties in 2015.

MME per person
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.
"We know of no other medication routinely used for a nonfatal condition that kills patients so frequently."

~ Dr. Thomas Friedan, CDC
Community-Based Solution

Public Health

Social Service Organizations

Community Leaders

Health Systems and Local Providers

Community-Based Organizations

State and Local Law Enforcement/EMS

Faith-Based Organizations

Legislators/Policy Makers

Substance Abuse Professionals
Impact Areas

- Prescribing Habits (Pain Management Practice Guidelines)
- Prescription Drug Monitoring (MAPS)
- Prescription Drug Disposal (Take Back Meds)
- Access to Treatment
- Medication Assisted Treatment
- Harm Reduction
- PAARI and Other approaches
- Drug Treatment Courts
- Education and Awareness
- De-stigmatize (a chronic brain disease)
LOCALIZING THE DATA
Number of Opioid-related Deaths Ingham County, 2004-2017

<table>
<thead>
<tr>
<th>Year</th>
<th># of Deaths</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004</td>
<td>16</td>
</tr>
<tr>
<td>2005</td>
<td>15</td>
</tr>
<tr>
<td>2006</td>
<td>8</td>
</tr>
<tr>
<td>2007</td>
<td>15</td>
</tr>
<tr>
<td>2008</td>
<td>17</td>
</tr>
<tr>
<td>2009</td>
<td>16</td>
</tr>
<tr>
<td>2010</td>
<td>17</td>
</tr>
<tr>
<td>2011</td>
<td>29</td>
</tr>
<tr>
<td>2012</td>
<td>29</td>
</tr>
<tr>
<td>2013</td>
<td>40</td>
</tr>
<tr>
<td>2014</td>
<td>55</td>
</tr>
<tr>
<td>2015</td>
<td>68</td>
</tr>
<tr>
<td>2016</td>
<td>77</td>
</tr>
<tr>
<td>2017</td>
<td>73</td>
</tr>
</tbody>
</table>
Drug-related Deaths among Residents in Ingham County 2016 - 2018*

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Drug Deaths</th>
<th>Opioids</th>
<th>Non-Opioids</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>87</td>
<td>77</td>
<td>10</td>
</tr>
<tr>
<td>2017</td>
<td>91</td>
<td>73</td>
<td>18</td>
</tr>
<tr>
<td>2018*</td>
<td>78</td>
<td>66</td>
<td>12</td>
</tr>
</tbody>
</table>

* Data as of 2018
Opioid-related Deaths By Race Ingham County 2016-2018*, n=216

- White: 193
- Black/African American: 19
- Other: 4

Opioid-related Deaths by Sex Ingham County 2016-2018*

Male: 54 (2016), 46 (2017), 42 (2018*)
Female: 23 (2016), 27 (2017), 24 (2018*)

Opioid-related Deaths By Age-groups Ingham County 2016-2018*, n=216

- <15: 1
- 15-24: 16
- 25-34: 60
- 35-44: 47
- 45-54: 44
- 55-64: 37
- ≥65: 11

Source: Ingham County Medical Examiner Records 2018
*Data is current as of 11/30/2018
Number of Overdose-related Emergency Room Visits Ingham County, 2007-2017

<table>
<thead>
<tr>
<th>Year</th>
<th># of ER visits</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>120</td>
</tr>
<tr>
<td>2008</td>
<td>75</td>
</tr>
<tr>
<td>2009</td>
<td>46</td>
</tr>
<tr>
<td>2010</td>
<td>32</td>
</tr>
<tr>
<td>2011</td>
<td>41</td>
</tr>
<tr>
<td>2012</td>
<td>155</td>
</tr>
<tr>
<td>2013</td>
<td>344</td>
</tr>
<tr>
<td>2014</td>
<td>320</td>
</tr>
<tr>
<td>2015</td>
<td>383</td>
</tr>
<tr>
<td>2016</td>
<td>446</td>
</tr>
<tr>
<td>2017</td>
<td>544</td>
</tr>
</tbody>
</table>

Source: Michigan Syndromic Surveillance System

*Numbers are based on emergency department visit (chief complaints) and before any confirmed diagnosis are made.*
Number of Removals by Substance Abuse, Ingham County 2018*

Total DHHS Removals = 121
Opioid-related Deaths By Selected Type Of Opioid among Ingham County Residents, 2016-2018*

2016: 27
- Fentanyl and/or analogues: 27
- Heroin: 22
- Commonly Prescribed opioids** and Benzodiazepines: 22

2017: 34
- Fentanyl and/or analogues: 34
- Heroin: 21
- Commonly Prescribed opioids** and Benzodiazepines: 14

2018*:
- Fentanyl and/or analogues: 44
- Heroin: 22
- Commonly Prescribed opioids** and Benzodiazepines: 11

Source: Ingham County Medical Examiner Records 2018
*Data is current as of 11/30/2018
Fentanyl and/or Analog(s)-related Deaths Among Ingham County Residents, 2016-2018*

<table>
<thead>
<tr>
<th>Year</th>
<th>% of all drug deaths</th>
<th>% of opioid deaths</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>16</td>
<td>21</td>
</tr>
<tr>
<td>2015</td>
<td>26</td>
<td>33</td>
</tr>
<tr>
<td>2016</td>
<td>31</td>
<td>35</td>
</tr>
<tr>
<td>2017</td>
<td>37</td>
<td>47</td>
</tr>
<tr>
<td>2018*</td>
<td>56</td>
<td>67</td>
</tr>
</tbody>
</table>

Source: Ingham County Medical Examiner Records 2018
*Data is current as of 9/9/2018
# Comparative Strengths of Opioid Painkillers

<table>
<thead>
<tr>
<th>Name</th>
<th>Relative Strength</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrocodone</td>
<td>1</td>
</tr>
<tr>
<td>Morphine</td>
<td>1</td>
</tr>
<tr>
<td>Oxycodone</td>
<td>1.5</td>
</tr>
<tr>
<td>Morphine IV</td>
<td>3</td>
</tr>
<tr>
<td>Methadone</td>
<td>3-4</td>
</tr>
<tr>
<td>Heroin</td>
<td>4-5</td>
</tr>
<tr>
<td>Hydromorphone</td>
<td>5</td>
</tr>
<tr>
<td>Oxymorphone</td>
<td>7</td>
</tr>
<tr>
<td>Levorphanol</td>
<td>8</td>
</tr>
<tr>
<td>Buprenorphine</td>
<td>40</td>
</tr>
<tr>
<td>Fentanyl</td>
<td>50-100</td>
</tr>
<tr>
<td>Carfentanil</td>
<td>10,000-100,000</td>
</tr>
</tbody>
</table>

FENTANYL 101
An introduction to the Fentanyl crisis in the U.S.

What are fentanyl and fentanyl analogues?
Fentanyl is a synthetic opioid that is 50–100 times more potent than morphine. Doctors prescribe fentanyl in medical settings, but drug traffickers manufacture black market fentanyl and sell it illegally.

There are over 40 analogues (variations) of fentanyl.
Carfentanil in an amount equivalent to one grain of salt is enough to kill a human being.
Naloxone Incidence City of Lansing Ingham County, 2016 – 2018*

Data is current as of 11/13/2018

2016: 255
2017: 373
2018*: 302
Source: Ingham County Medical Examiner Records 2018
*Data is current as of 11/9/2018

*Nl= not identified
Nalaxone incidence by number of doses administered per person

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Nalaxone Incidence (NI)</th>
<th>NI = 1 dose/person</th>
<th>NI = 2 doses/person</th>
<th>NI = 3 doses/person</th>
<th>NI = 4+ doses/person</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>255</td>
<td>185</td>
<td>59</td>
<td>10</td>
<td>1</td>
</tr>
<tr>
<td>2017</td>
<td>373</td>
<td>231</td>
<td>106</td>
<td>26</td>
<td>10</td>
</tr>
<tr>
<td>2018*</td>
<td>302</td>
<td>188</td>
<td>90</td>
<td>22</td>
<td>2</td>
</tr>
</tbody>
</table>

Source: City of Lansing Fire Department/EMS 2015-2018
Heat Map of Naloxone Incidences, November 2018

Michigan State University, Ontario MNR, Esri Canada, Esri, HERE, Garmin, USGS, NGA, EPA, USDA, NPS
Why all this data? Yes, it’s interesting but . . .

The more we can collect data, analyze that data, look at demographic and geographic trends in the data, the better able we are to target prevention, early intervention, and intervention efforts.

For example . . .
Mortality Rates, by Incarceration Status and Time since Prison Release

In the first two weeks of their release, former prisoners have a mortality rate 13 times greater than their matched demographic cohorts.

Source: Binnwanger et al. 2007; authors' calculations.
Note: Results are for the incarcerated population in the state of Washington from July 1999 to December 2003.

FIGURE 19: Time between ACJ Release and Fatal Overdose, 2008 through 2014, N = 211
What our local data is telling us

- Irrespective of the data sources & methodology opioid overdose continues to be a growing public health crisis.
- Historically, prescription opioids have been the driving cause of opioid related deaths in this epidemic. That is shifting.
- Fentanyl related deaths have nearly tripled since 2014.
- Increasing trend in Naloxone incidence (4 or more doses per person) can indicate growing use of potent opioids such as Fentanyl.
- Numbers cannot tell the whole story. All the numbers are likely to underestimate the true burden.
Michigan 10-bill Package Became Law in 2018

- PA 246 Informed consent with minors
- PA 247 Provider relationship with patient
- PA 248 MAPS requirement
- PA 249 Corrects any conflicts in statute
- PA 250 Provider treating overdose must provide SUD info
- PA 251 Limits first time Rx to 7 days, pharmacy may fill in increments
- PA 252 Veterinary dispensing added to MAPS
- PA 253 Medicaid coverage of opioid abuse treatment
  PA 254 MDHHS to develop and make recommendations to MDE for pupil instruction
- PA 255 Incorporating dangers of Rx opioid abuse into public education
The New Jim Crow
INCARCERATED AMERICANS (1920-2013)

States pass “tough on crime” laws, including Three-Strikes and Truth in Sentencing

Congress enacts new Mandatory Minimum Sentences for drugs

The U.S. declares War on Drugs

President Nixon proclaims drug abuse “public enemy number one”

2.3 million incarcerated Americans

501,500 incarcerated for drug offenses

41,000 incarcerated for drug offenses

501,886 incarcerated Americans
People addicted to pain pills are 40x more likely to use heroin

Ingham Opioid Work Group
LIFE SAVER

Naloxone saves hundreds from drug overdoses in Ingham County each year

Ingham Opioid Work Group
80% of abused prescription drugs come from home medicine cabinets

Ingham Opioid Work Group