



What do you like best about Fall?



Start the presentation to activate live content

If you see this message in presentation mode, install the add-in or get help at PollEv.com/app





BUILDING A COUNTY-WIDE OPIOID INITIATIVE:

*the sorta hard with a touch of awkward-
easy-difficulty-challenging way*

Linda Vail, MPA,
Health Officer

Cassandre Larrieux, MPH,
Sr. Community Epidemiologist

Sumeer Qurashi, MD, MPH,
Community Epidemiologist



Ingham County
Health Department



You're gonna have to get in that tub, Gary. Now, Gary, we can do this the hard way, or the easy way, or the medium way, or the semi-medium-easy-hard way, or the sorta hard with a touch of awkward-easy-difficulty-challenging way...

are you in the development of an opioid init


We have one!

We are exploring the
idea


We are not interested
right now

Start the presentation to activate live content

If you see this message in presentation mode, install the add-in or get help at PollEv.com/app



have current and local opioid data to show to
administration or stakeholders?



We have local data,
but not current data.

We have current data,
but not local data.

We have local and
current data.

We don't have any
opioid data.

This question does
not apply to us.



Start the presentation to activate live content

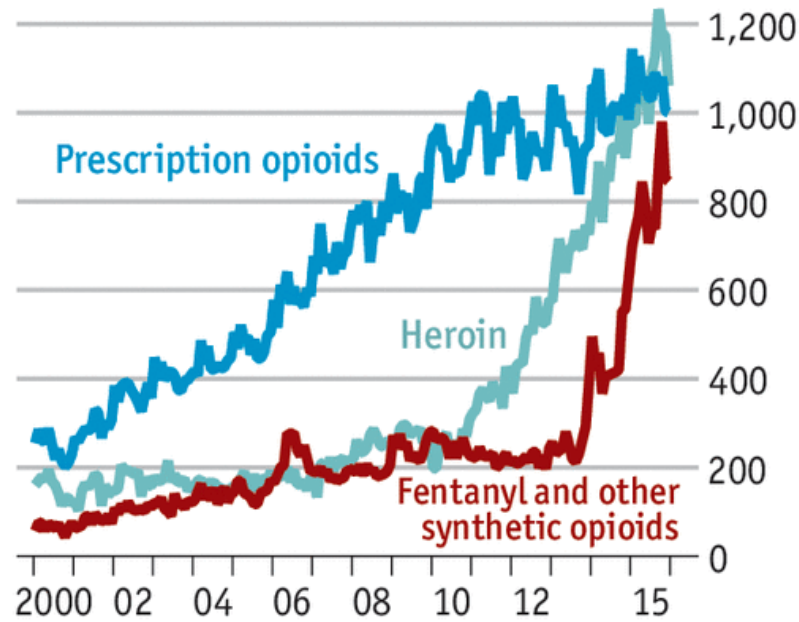


If you see this message in presentation mode, install the add-in or get help at PolleEv.com/app

ACT 1



Opioid epidemic: at the national level



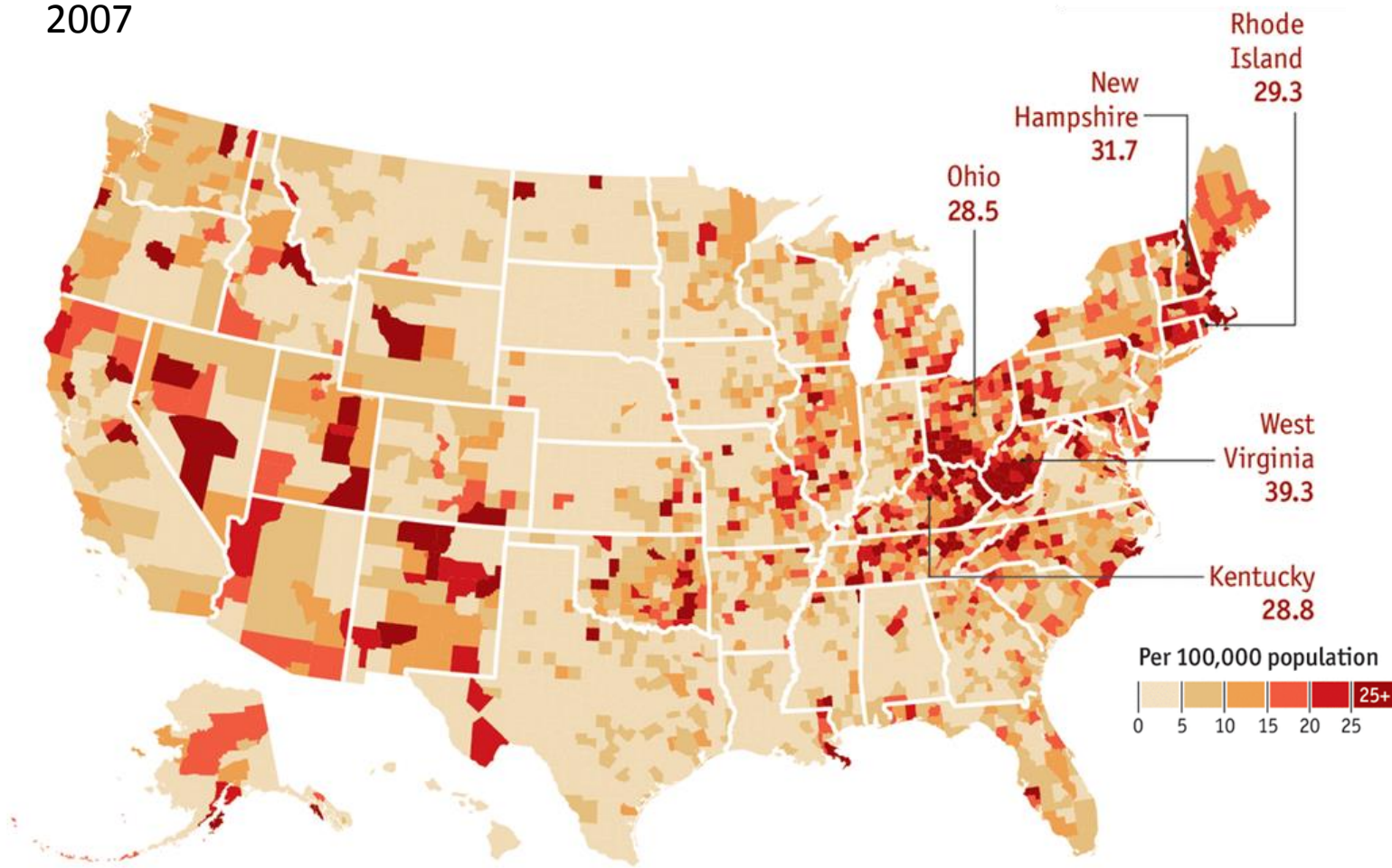
Unintentional Drug Overdose Deaths for Select Substances in the United States, 2000-2015

Numbers are not mutually exclusive



Opioid epidemic: at the national level

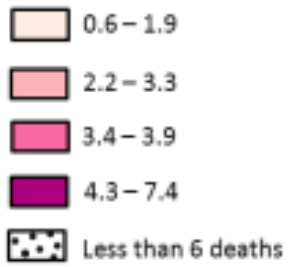
Unintentional Drug Overdose Deaths in the United States by county, 1970-2007



Source: National Center for Health Statistics, National Vital Statistics System

Opioid epidemic: at the state level

Opioid-related Poisoning Death Rates Per 100,000 MI Residents

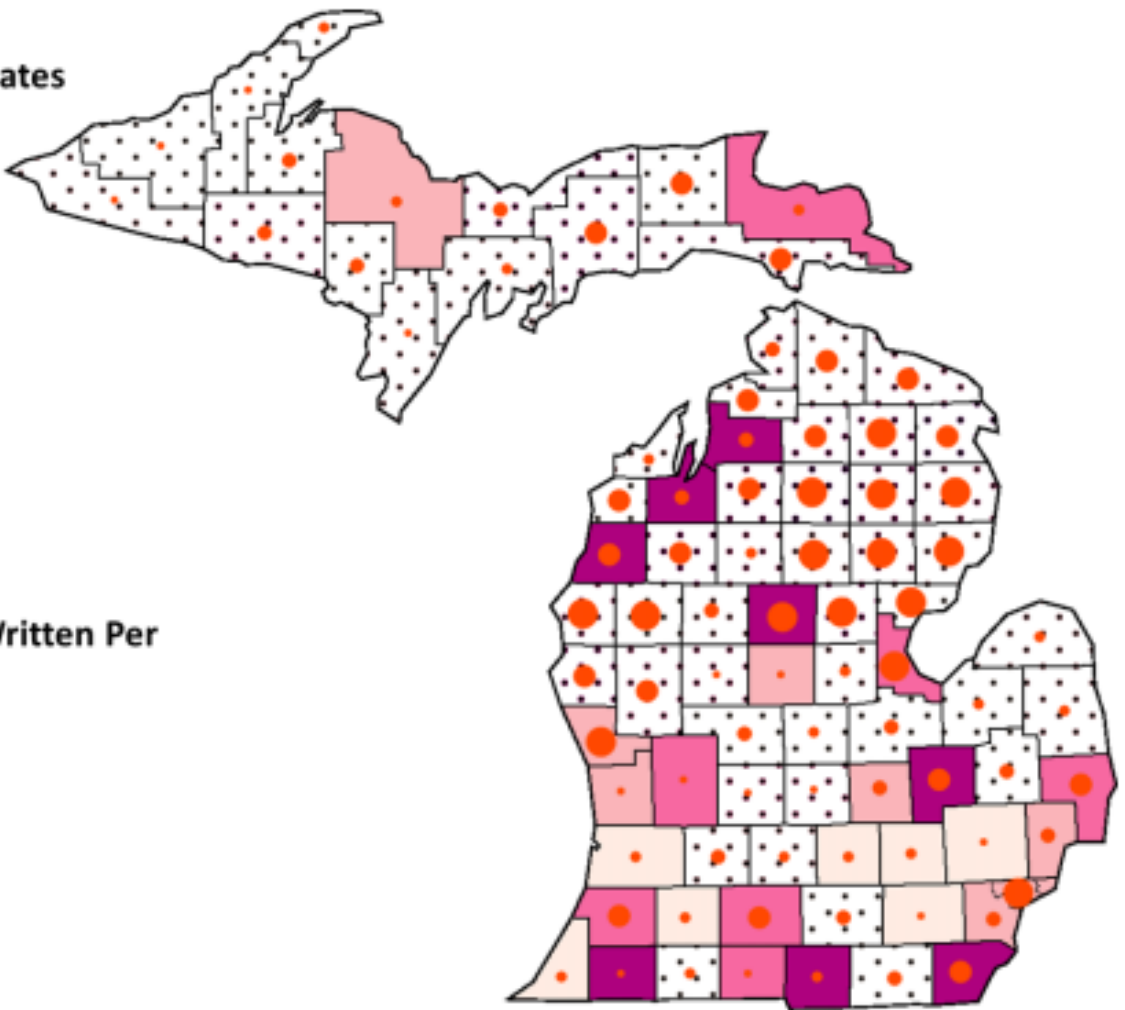


Overall MI rate: 2.3 (95% CI: 2.2 – 2.5)

Number of Opioid Prescriptions Written Per 100,000 MI residents



Overall MI Rate: 92,792.7



Source: Office of Recovery Oriented Systems of Care, Bureau of Community Based Services, Behavioral Health and Developmental Disabilities Administration, Michigan Department of Community Health (now Michigan Department of Health and Human Services)

The paths to developing local interventions

The Opioid Problem



Start with data

Start with
people



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)



Bringing together stakeholders

- There are a lot of organizations and entities, directly and indirectly, affected by the opioid crisis.
- A way of infusing equity into the process is to get input from a diversity of stakeholders



Addressing Equity in the Formation of an Initiative

Ingham County's heroin surge

A cautionary tale from the front

BY TODD HEYWOOD



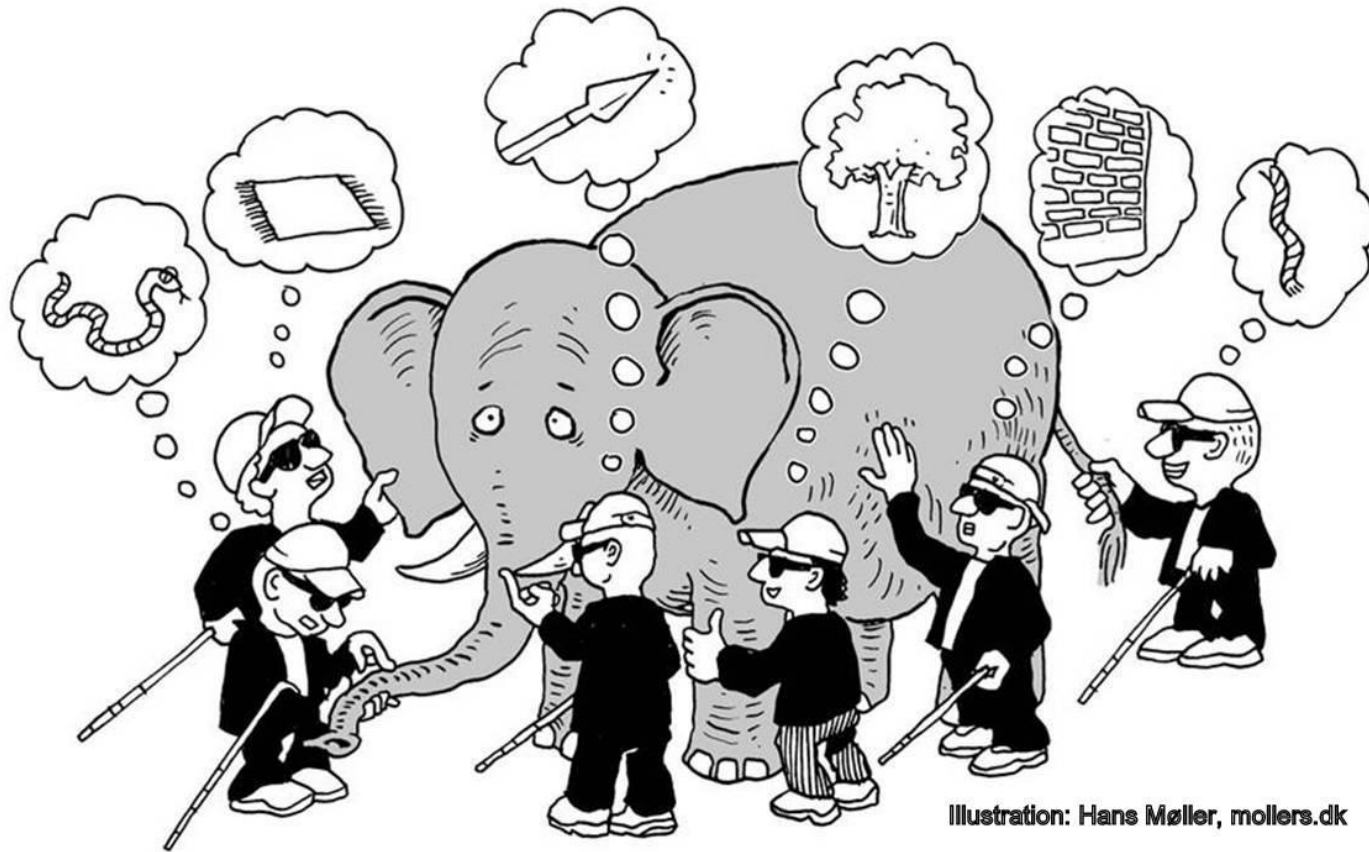
Eric Pavona had the world in his hands when he graduated from Okemos High School. He had high college entrance test scores, he'd been working and saving money, he had scholarship offers from numerous universities and colleges, and he owned his own car and paid his own insurance.

His father, Phil Pavona, was proud of his only son. Eric accepted a scholarship at Ferris State University. For the next three years, he seemed to be on track for a bright future.



Phil Pavona helped start the group's Lansing-area chapter. Pavona lost his son, Eric, to a drug overdose in 2011.

Now that you have a group, what are they going to talk about



ACT 2



Opioid Surveillance Process Overview



Opioid Surveillance Process Overview



- Four different data sources
- Monthly Collection of information
- Secure data sharing



Opioid Surveillance Process Overview



- Data preparation
 - Examining & organizing data
 - Creating data dictionary
- Storage:
 - Loading normalized data into database
- Analysis & interpretation
 - Analyzing data on monthly basis & as required
- Validation
 - Checking results for accuracy/consistency
- Evaluation
 - what works well & what doesn't?



Opioid Surveillance Process Overview



- Report generation
- Report distribution
 - Monthly & annually
 - Printout, email, social media
- Assurance of confidentiality



Our Sources

- Ingham County Medical Examiner
- City of Lansing EMS/Fire Department
- Ingham County Law Enforcement Agencies
- Michigan Syndromic Surveillance System



Indicators & Measures

Indicator	Measure
Opioid-related Mortality	Number of drug-related deaths
	Number of drug-related deaths involving opioids
	Opioid death rate
Use of Nalaxone (Narcan®)	Nalaxone case count
Drug overdose incidents	Number of drug overdose incidents
	Number of drug overdose deaths
Drug overdose-related emergency department (ED) visits	Number of drug overdose-related emergency department (ED) visits



Ingham County Medical Examiner

- Rather than vital records, why medical examiners data?
 - Death certificate data takes one to two years to become available
 - Vital statistics data have limited data on the drugs involved
 - Limited ability of ICD10 coding to identify the specific drugs involved in drug overdose deaths

Ingham County Medical Examiner

- About the source
 - Data collection starts in the Medical Examiner's (ME) Office
 - All drug-related deaths that occurred in Ingham County irrespective of place of residence
 - Obtaining data from the Medical Examiner's office on a monthly basis via Sparrow Health System encrypted email service

Ingham County Medical Examiner

- Indicator 1: Opioid-related mortality
 - Opioid-related death
 - A death in which any opioid (prescription, non-prescription, or both) alone or in combination with other drugs was present in the system of the decedent.
- Measure
 - Number of drug-related deaths
 - Number of drug-related deaths involving opioids
 - Opioid death rate (deaths per 100,000)

Ingham County Medical Examiner

- Covariates
 - Overall 24 variables
 - Rates and counts stratified by demographic factors such as age, sex, race/ethnicity, drug categories
- Major Limitations & Pitfalls
 - Multiple drugs are identified as a related cause death
 - Difficult to specify which one actually caused death
 - There are likely to be false positives
 - Hard to categorize drug-related deaths by type of drug involved
 - Comparability of reported information
 - Rates calculated only when there are sufficient numbers
 - Definitions & terminologies not completely standardized
 - At some places data purposely suppressed due to confidentiality or statistical unreliability

City of Lansing EMS/Fire Department

- About the source
 - Data collection started in 2015
 - Every emergency medical service (EMS) response which includes a patient assessment, results in a patient record
 - Information collected by EMS electronically and then shared securely on monthly basis with Ingham County Health Department

City of Lansing EMS/Fire Department

- Indicator 2: Naloxone use

- Naloxone incidence:

- A case is defined as a patient record from emergency medical service (EMS) where Naloxone was administered to a person at a specific place and time in Ingham County regardless of a person's place of residence
 - Higher potential of capturing hard-to-reach overdose events and estimating overdose events which involved potent opioids

- Measure

- Number of Naloxone incidence
 - Number of incidence by Naloxone doses administered

City of Lansing EMS/Fire Department

- Covariates
 - Overall 12 variables
 - Counts & proportions stratified by months and demographic factors such as sex, age, race
- Major Limitations & Pitfalls
 - Information is based on on-site assessment of the patient (i.e. primary and secondary impression)
 - The findings represent only a portion of the County
 - Rates could not be calculated because of the insufficient information

Ingham County Law Enforcement Agencies

- About the source
 - Each agency collects, records, and store incident data differently
 - Data for this surveillance system funneled from each participating agency to ICHD via Lansing & East Lansing Police Departments
 - Monthly data collection started from 2015

Ingham County Law Enforcement Agencies

- Indicator 3: Drug overdose incidents
 - A case, defined by law enforcement agencies, is an incident either involving drug overdose or drug overdose-related death in their jurisdiction.
- Measure
 - Number of drug overdose-related cases stratified by law enforcement jurisdictions and month of incident
 - Number of drug overdose-related deaths by law enforcement jurisdictions and month of incident

Ingham County Law Enforcement Agencies

- Covariates
 - Gathered information includes seven variables
 - Incident date, Age, Law enforcement agency & status
- Major Limitations & Pitfalls
 - Inadequate demographic information

Michigan Syndromic Surveillance System (MSSS)

- About the source
 - A real time state wide reporting system developed for coordination communicable disease surveillance; early identification of emergent infectious diseases and possible biological terrorism.
 - Data generated by hospital emergency departments, poison control centers, and some urgent care centers.
 - MSSS tracks all complaints including any overdose and poisoning case.

Michigan Syndromic Surveillance System

- Indicator 4: Drug overdose-related emergency department (ED) visits
 - Any drug overdose related emergency department (ED) visit in Ingham County qualifies for this surveillance
- Measure
 - Number of drug-overdose related ED visits by the month of admission

Michigan Syndromic Surveillance System

- **Covariates**
 - Information collected on six variables.
 - Provides basic demographic information (gender, age, zip code of residence), data admitted and 'chief complaint'.
- **Major Limitations & Pitfalls**
 - Complaint based data, lacks any information regarding final diagnosis.
 - Actual number of diagnosed overdose-related ED visits may be either overestimated or underestimated.
 - MSSS does not provide readily available data for drug related ED visits, not designed for that purpose.

WHAT OUR LOCAL DATA IS TELLING US?



What our local data is telling us

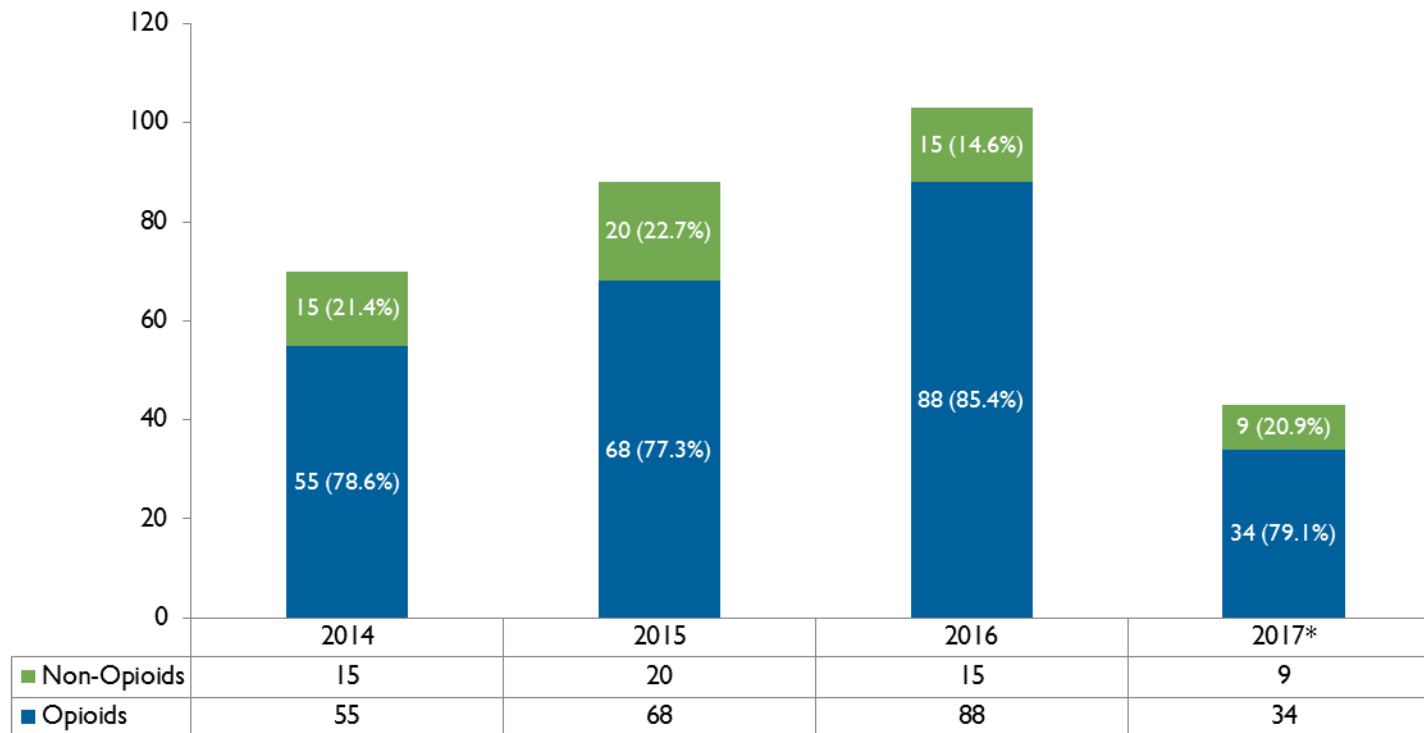
Ingham County Medical Examiner Data

- 2016:
 - 103 drug related deaths
 - 88 (85.4%) opioid deaths
 - 77 Ingham County residents
 - 11 non-County residents
 - 15 (14.5%) non-opioid deaths
 - 10 Ingham County residents
 - 5 non-County residents
- 2017(as of 9/6/2017):
 - 43 total drug-related deaths
 - 34 (79%) deaths opioid-related (all Ingham County residents)
 - 7 (16.3%) deaths non-opioid related
 - 2 pending



What our local data is telling us

Drug-related deaths by related cause of death, Ingham County
2014 – 2017*

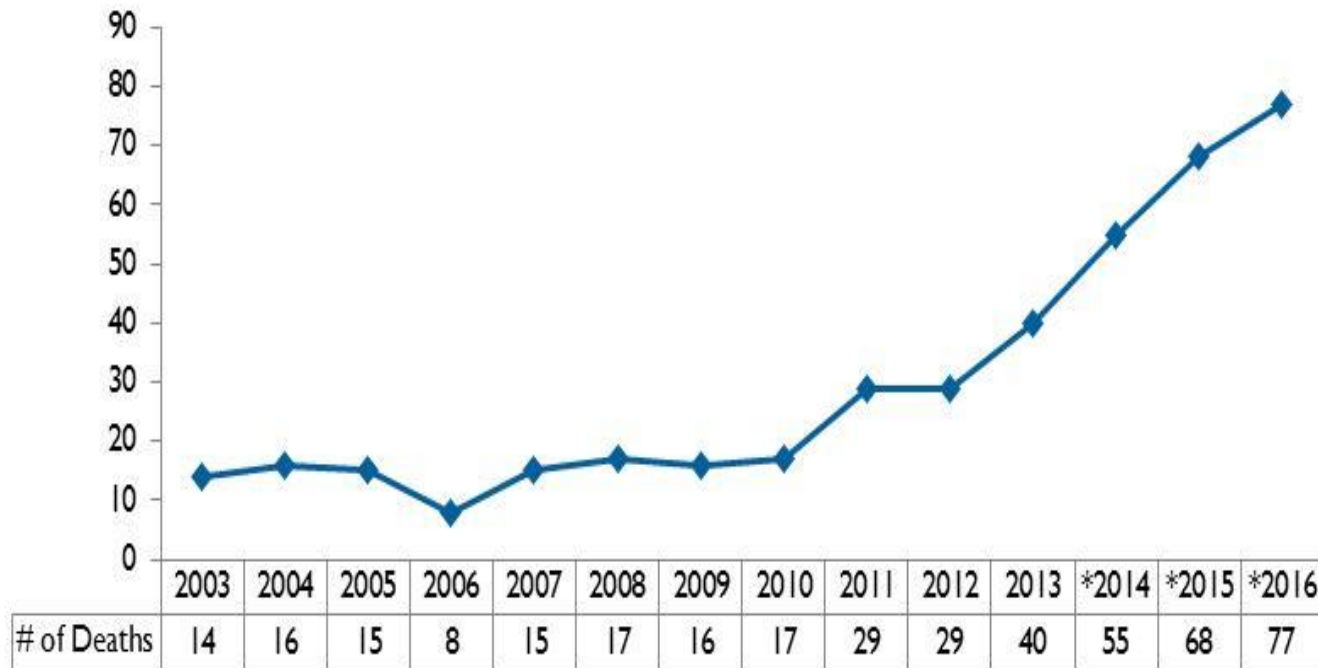


Source: Ingham County Medical Examiner 2014 – 2017*

*Data is current as of 9/6/2017

What our local data is telling us

Number of opioid-related deaths among residents in Ingham County, 2003-2016

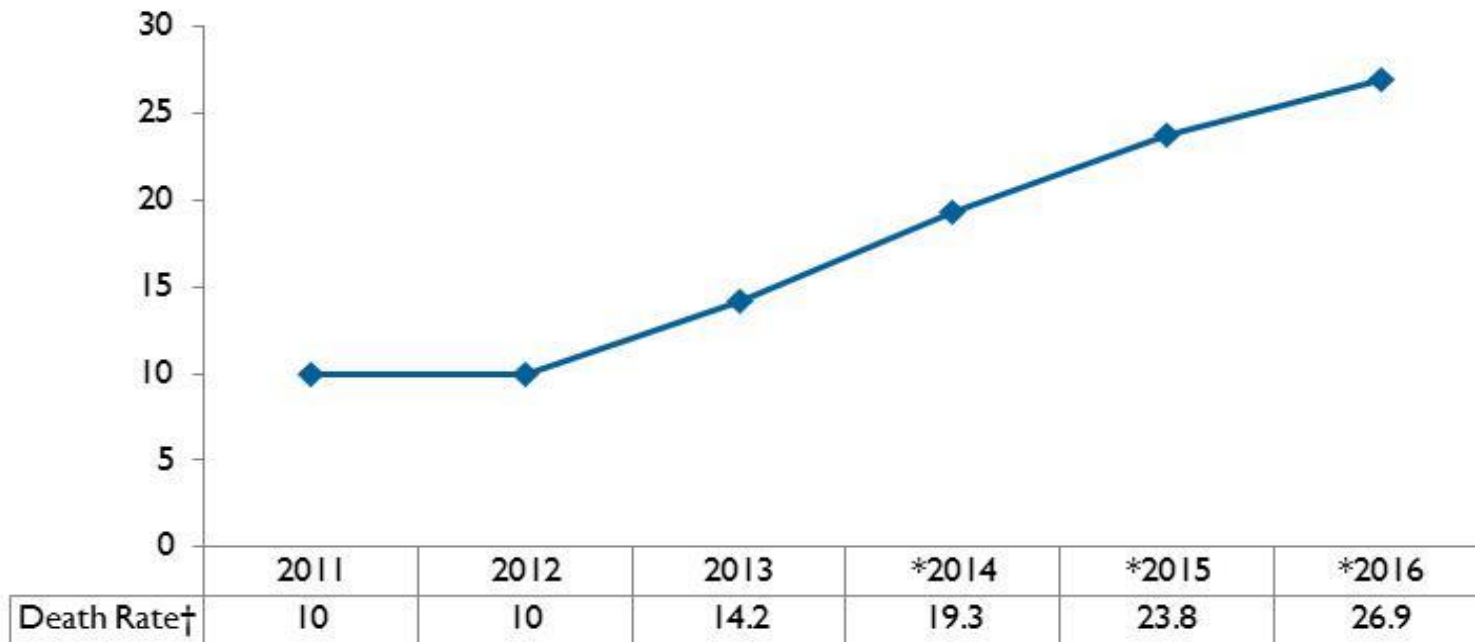


Source: Michigan Resident Death Files

*Source: Ingham County Medical Examiner Records 2014 - 2016

What our local data is telling us

Opioid-related death rate Ingham County, 2011-2016



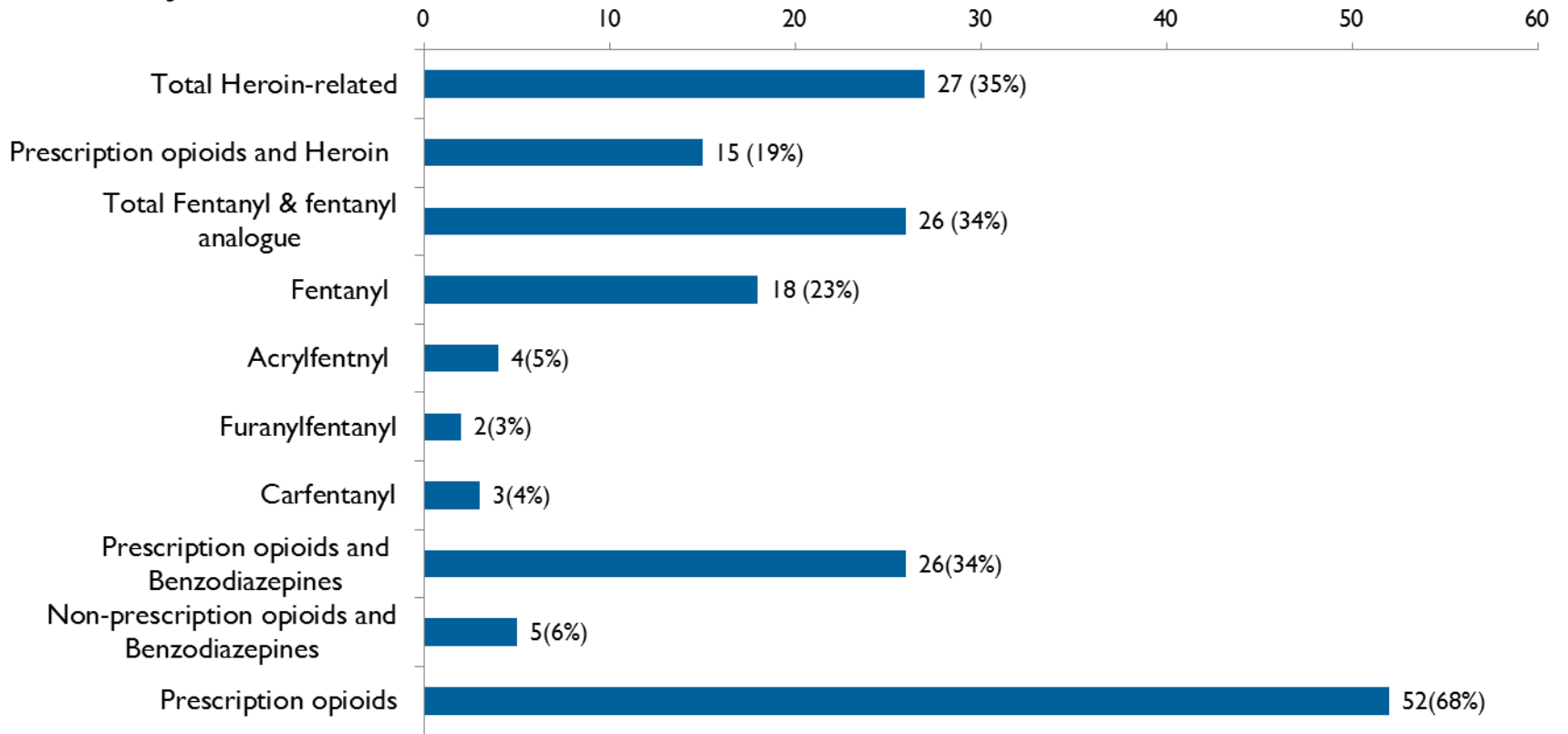
Source: Michigan Resident Death Files

*Source: Ingham County Medical Examiner Records 2014 – 2016

All rates are per 100,000 Ingham County residents

What our local data is telling us

Opioid-related deaths by selected type of opioid among Ingham County residents, 2016



Fentanyl and Fentanyl Analogs

2014

- 16.2% of all drug deaths involved fentanyl/analog(s)
- **20.7% of opioid deaths involved fentanyl/analog(s)**

2015

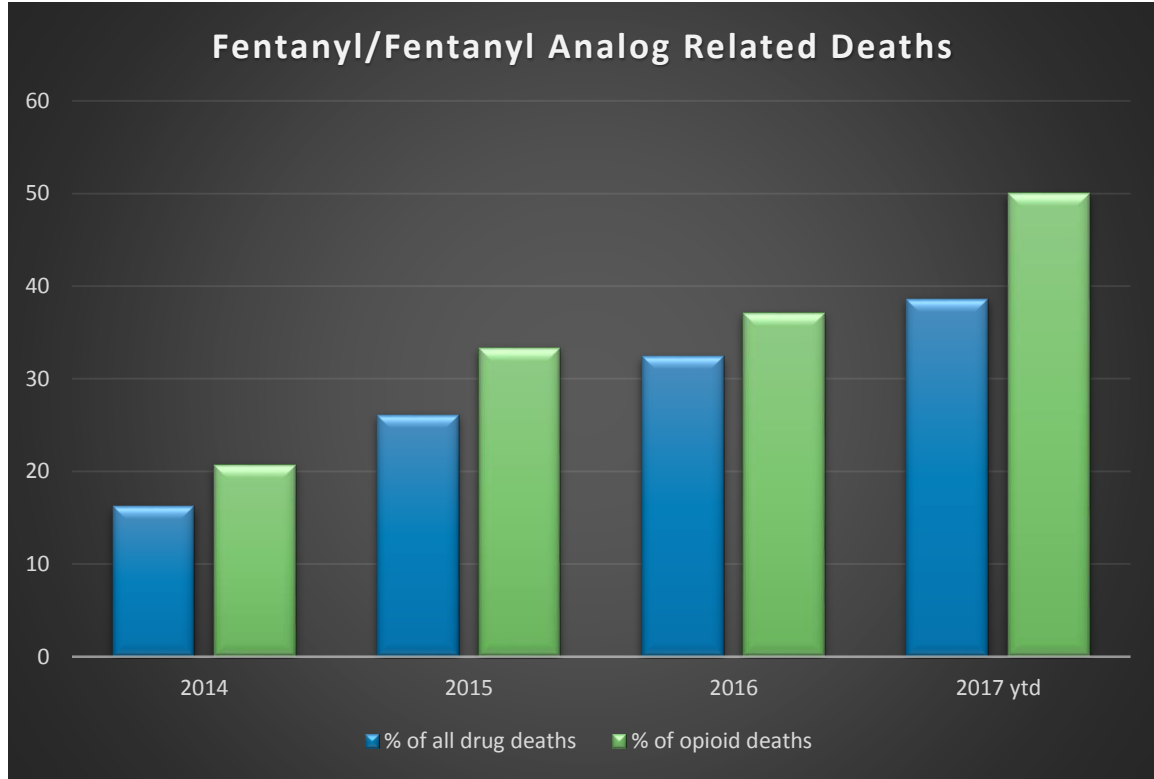
- 26.1% of all drug deaths
- **33.3% of opioid deaths**

2016

- 32.4% of all drug deaths
- **37.1% of opioid deaths**

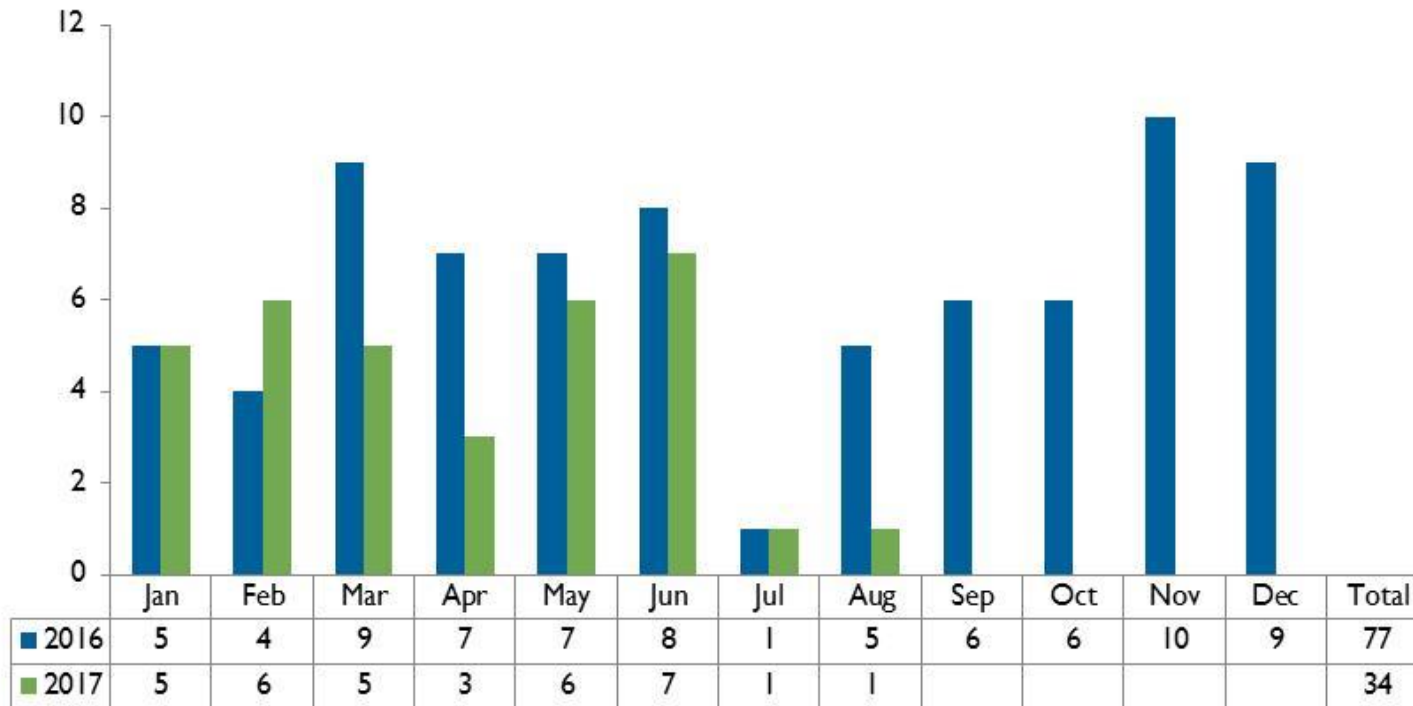
2017 (YTD)

- 38.6% of all drug deaths
- **50% of opioid deaths**



What our local data is telling us

Number of opioid-related deaths among residents in Ingham County by month, Ingham County 2016-2017



Source: Ingham County Medical Examiner as of Sep.6.2017

*Data is current as of 9/6/2017

Characteristics of Opioid-related deaths among residents in Ingham County, 2016

Decedent characteristic	Number	Death Rate†	95% CI for Calculated Rate
Total Deaths	77	26.9	(20.9 - 32.9)
Sex			
Male	54	38.9	(28.5 - 49.3)
Female	23	15.6	(9.2 - 22.0)
Age Group			
<15	1	*	
15-24	6	*	*
25-34	19	47.9	(26.4 - 69.4)
35-44	23	73.1	(43.2 - 102.9)
45-54	17	52.7	(27.7 - 77.8)
55-64	8	*	*
≥65	3	*	*
Race			
White	72	32.8	(25.2 - 40.4)
Black	4	*	*
Other	1		
Hispanic Ethnicity			
Hispanic or Latino	2	*	
Non-Hispanic or Latino	48	18.2	(13.0 - 23.3)
Unknown	12	*	
Missing	15	*	
Other characteristic			
Age			
Median	41 yrs		
Mean	40.4 yrs		
Range	1 - 83 yrs		
Manner of death			
Accident	70		
Indeterminate	4		
Suicide	3		

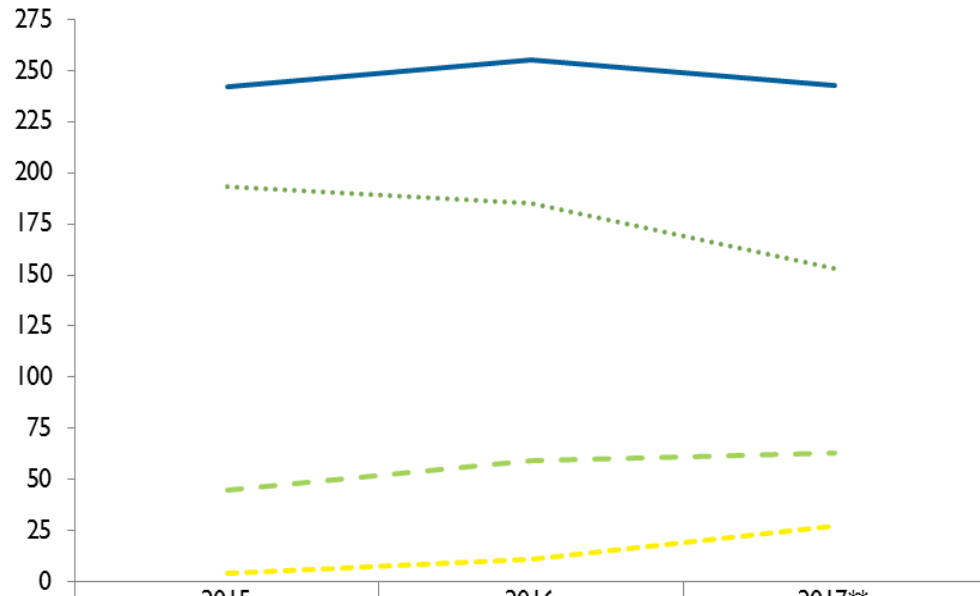
Who is at risk?

- White
- Non – Hispanic
- Males
- 35-44years old



What our local data is telling us

Naloxone incidence by number of Naloxone doses administered per person, Ingham County* 2015 - 2017**



	2015	2016	2017**
Total Naloxone Incidence (NI)	242	255	243
NI (1 dose administered per person)	193	185	153
NI (2 doses administered per person)	45	59	63
NI (3 or more doses administered per person)	4	11	27

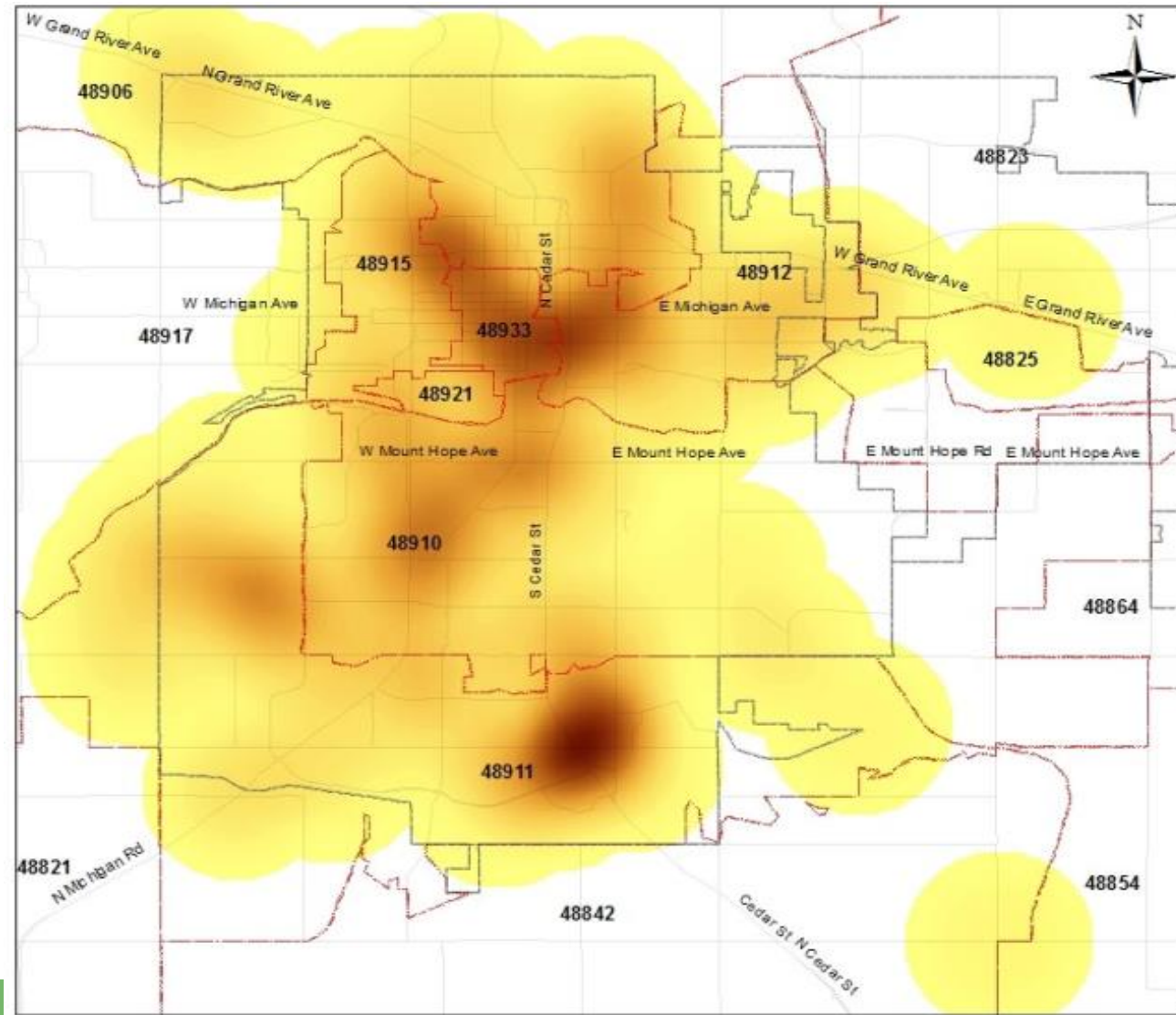
Source: City of Lansing Fire Department/EMS 2015-2016

*Reported Numbers do not represent whole Ingham County

**Data as of Sep. 6 2017

What our local data is telling us

Density Heat Map of Administered Naloxone Doses, Capital Area - Ingham County 2016



What our local data is telling us

Number of drug overdose-related cases (including overdose-related deaths) by law enforcement jurisdiction and month of incident, Tri-County Area 2017*

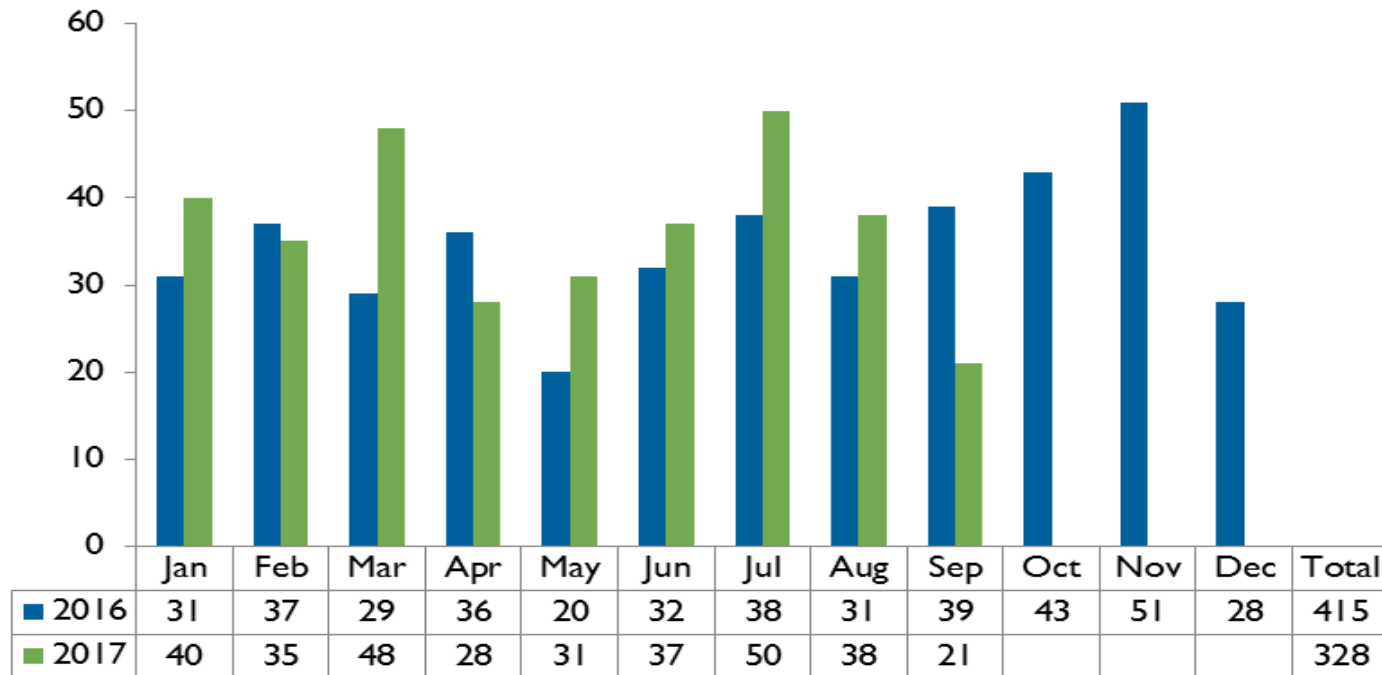
- 182 drug overdose incidents
 - 157 survived
 - 25 died

Jurisdiction	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year to Date
Bath Twp					2								2
Charlotte PD													0
CCSD				1									1
Delhi Twp													0
DeWitt Twp PD	1		1		1								3
ECSD	1												1
ECSO													0
E. Lansing PD	3	1			1	1		2					8
Ingham County Sheriff Office (ICSO)	1												1
ICSD			4	1	1	2	1	4					13
ICSO/ Leslie													0
Lansing PD	24	8	19	11	12	25	24	22	6				151
Lansing Charter Twp PD													0
Mason/ICSO Assist													0
Meridian Charter Twp PD													0
MSU PD			1	1									2
Total	30	9	25	14	17	28	25	28	6	0	0	0	182

Sources: East Lansing Police Department, Drug Overdose Incidents Tri -County Area and Lansing Police Department (Lansing only) as of Sep 08, 2017

What our local data is telling us

Number of Overdose-related emergency department visits* by month, Ingham County 2016 - 2017**



Source: Michigan Syndromic Surveillance System

*Numbers are based on emergency department visit (chief complaints) and before any confirmed diagnoses are made.

**Data is current as of 9/15/2017

What our local data is telling us

Conclusion

- Irrespective of the data sources & methodology opioid overdose continues to be a growing public health crisis.
- 88 opioid deaths in 2016 an all-time high, equivalent to 84.5% of all drug-related deaths.
- In 2016, 8.6 drug-related deaths occurred per month
- Prescription opioids continue to be the driving cause of opioid related deaths.
- Fentanyl related deaths have more than doubled since 2014.

What our local data is telling us

Conclusion

- Increasing trend in Naloxone incidence(3 or more doses per person) can indicate growing use of potent opioids such as Fentanyl.
- In 2016, an estimated 415 people visited either hospital emergency department or urgent care complaining of drug overdose.
- Numbers cannot tell the whole story. All the numbers are likely to underestimate the true burden.

“The greatest medicine of all is teaching people how not to need it.”

~Hippocrates

ACT 3



What's Next?

- Additional data sources/analysis
- Targeting interventions



GATEWAY

People addicted to pain pills are 40x more likely to use heroin

Ingham Opioid Work Group



**Naloxone saves hundreds
from drug overdoses in
Ingham County each year**

Ingham Opioid Work Group

DRUG DEALER

**80% of abused prescription
drugs come from home
medicine cabinets**

Ingham Opioid Work Group

GATEWAY

People addicted to pain pills are 40x more likely to use heroin

Ingham Opioid Work Group



**Naloxone saves hundreds
from drug overdoses in
Ingham County each year**

Ingham Opioid Work Group

DRUG DEALER

**80% of abused prescription
drugs come from home
medicine cabinets**

Ingham Opioid Work Group

Question time!

Our contact information:

Cassandra 'Cassie' Larrieux, MPH

Senior Community Epidemiologist

Ingham County Health Dept.

office: 517.887.4428

email: clarrieux@ingham.org

Sumeer Qurashi, MD, MPH

Community Epidemiologist

Ingham County Health Dept.

office: 517.676.7198

email: squrashi@ingham.org

