

A hand is shown typing on a laptop keyboard. A stethoscope is resting on the keyboard in the foreground. The entire image has a blue tint.

Empowering medical staffs to solve the opioid epidemic

About our presenter...

- Chad Brummett, MD
 - Associate professor, University of Michigan
 - Director of pain research and the Director of clinical anesthesia research



The Role of Acute Care Prescribing in the Opioid Epidemic

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www.michigan-OPEN.org

<http://medicine.umich.edu/dept/pain-research>

Twitter: @drchadb



Funding and Disclosures

- Funding

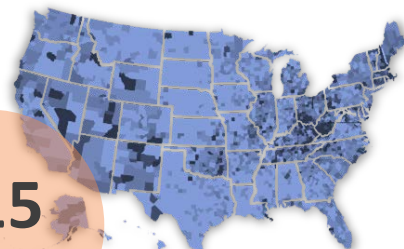
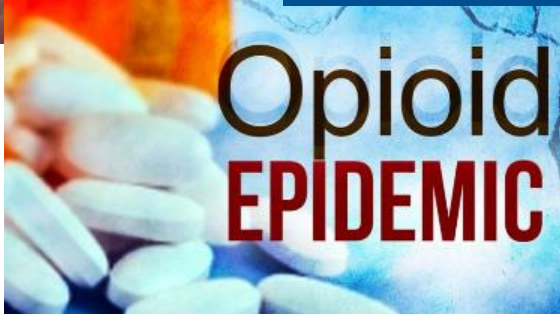
- NIAMS/NIH: R01 AR060392; P50 AR070600
- NIDA/NIH: R01 DA038261; R01 DA042859
- Michigan Department of Health and Human Services
- SAMHSA
- CDC
- Michigan Genomics Initiative
- Department of Anesthesiology
- Neuros Medical, Inc

- Disclosures

- Patent for the use of peripheral perineural dexmedetomidine alone and in combination with local anesthetics. Application number 12/791,506; Issue Date 4/2/13; Patent Number 8410140
- Consultant- Recro Pharma, Heron Therapeutics



Opioid overdose kills
more individuals than those involved
in fatal motor vehicle accidents.

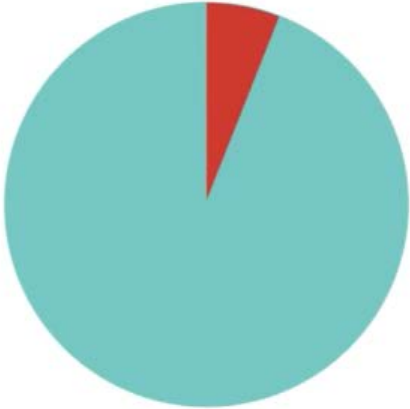


115
AMERICANS

die every day from an **opioid overdose** (that includes prescription opioids and heroin).

Major Public Health Crisis

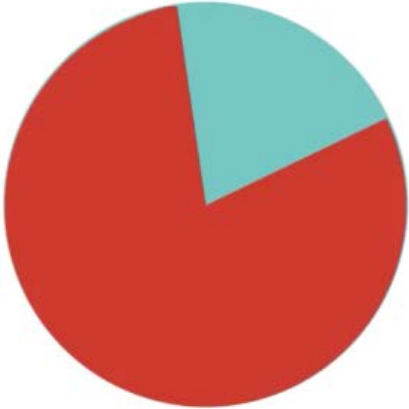
4 %



US share of world population



80 %



US share of opioid consumption

Prescription Opioids In America

2012: 259 million opioid prescriptions



More Drug Overdose Deaths Now Involve Heroin than Prescription Painkillers



For Whom Do We Prescribe?



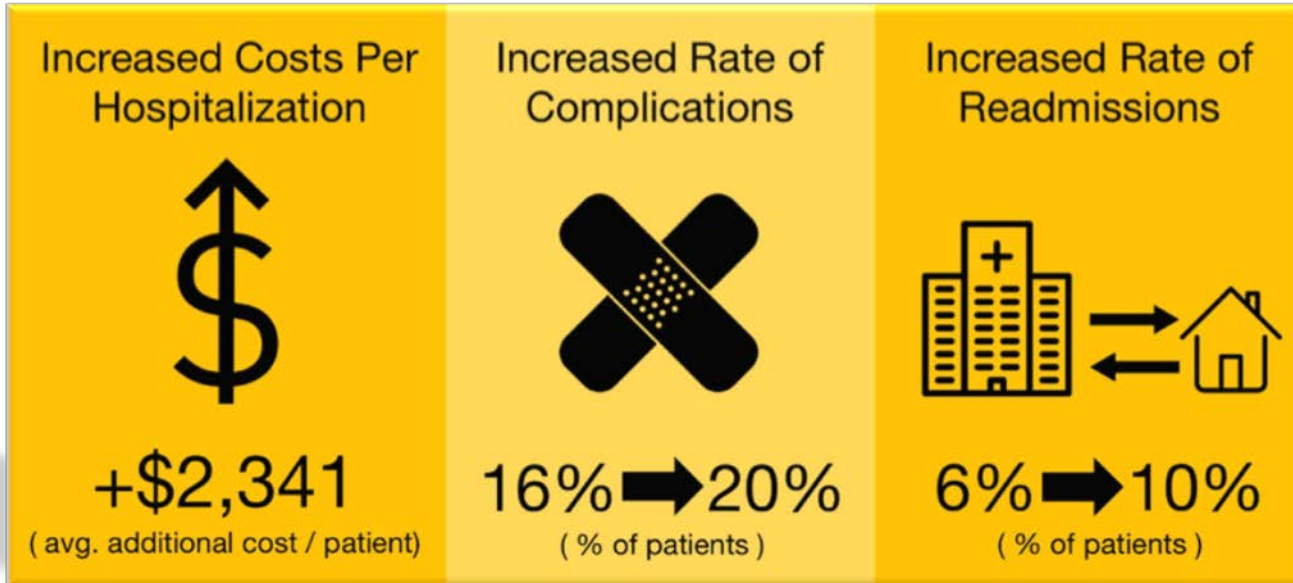
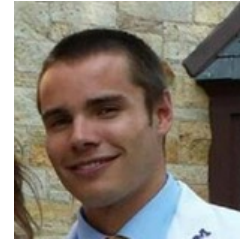
Opioid naive

Chronic 8%

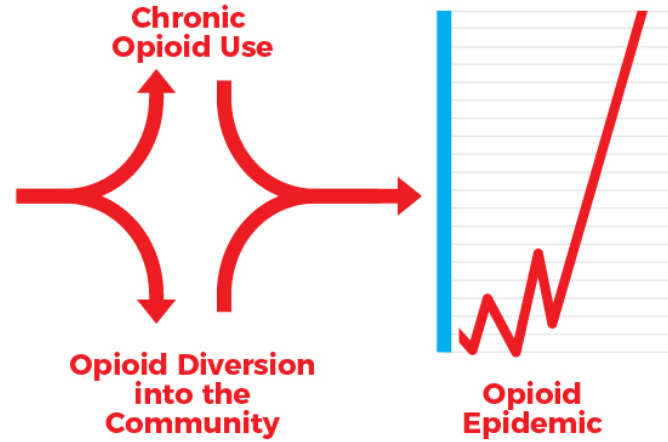


Intermittent 30%

Pre-Operative Opioid Use and Associated Outcomes after Major Abdominal Surgery

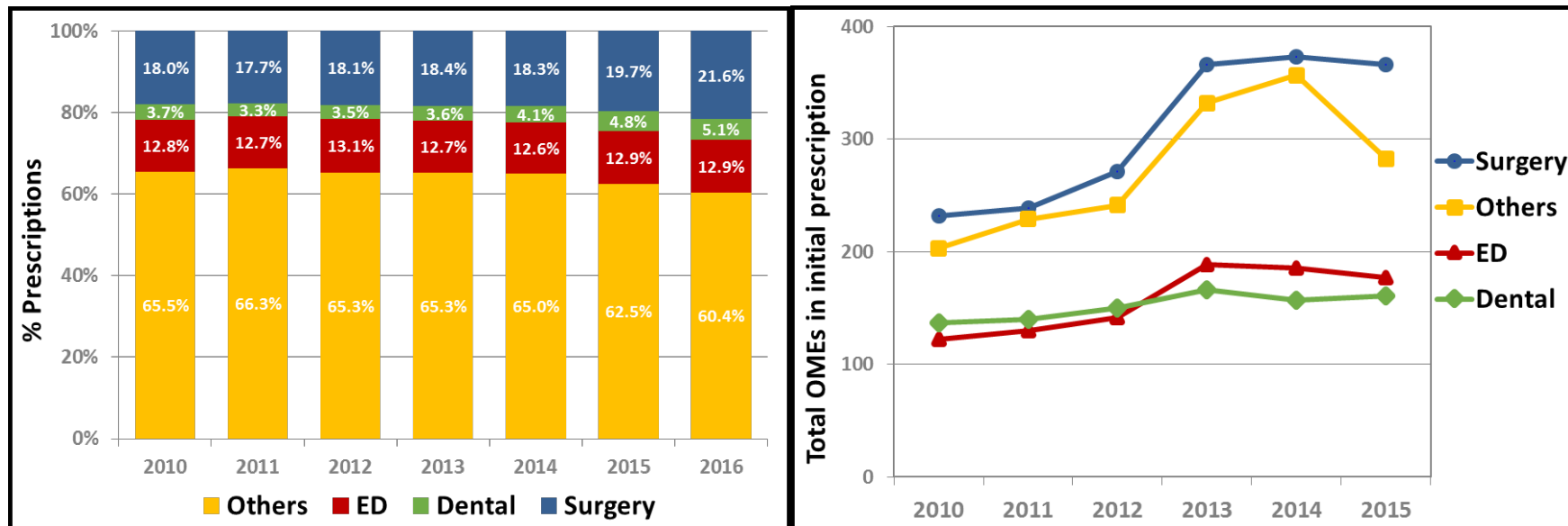


Preventing Chronic Opioid Use and Abuse Before it Starts



Current Strategic Efforts

For opioid naïve patients, the relative contribution of acute care prescribing is increasing, and surgeons prescribe the highest amount



Our Role

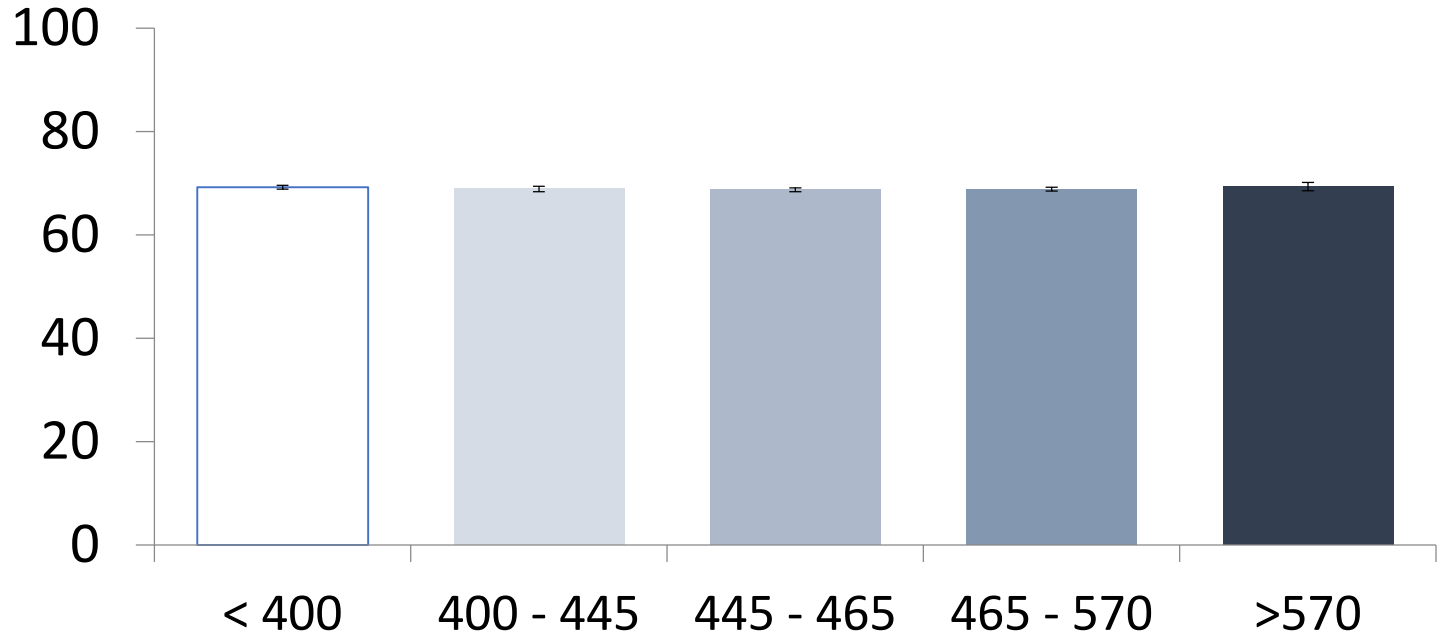


Why do surgeons prescribe too much?



HCAHPS ≠ Prescribing

**HCAHPS Pain
Control
Score**

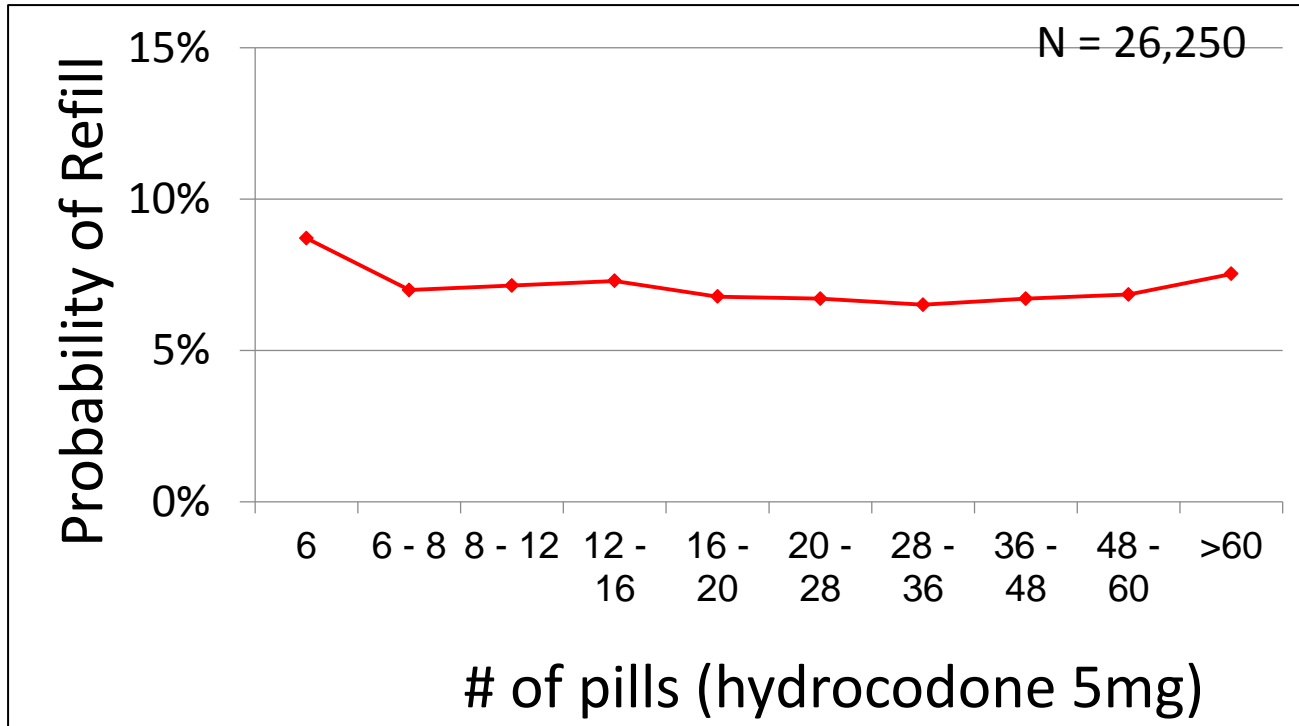


**Hospital Quintiles of Postoperative Opioid Prescribing
(OMEs)**



Refills?

Quantity Does Not Predict Refill



Opioid naive

Chronic 8%



Intermittent 30%

New Persistent Use

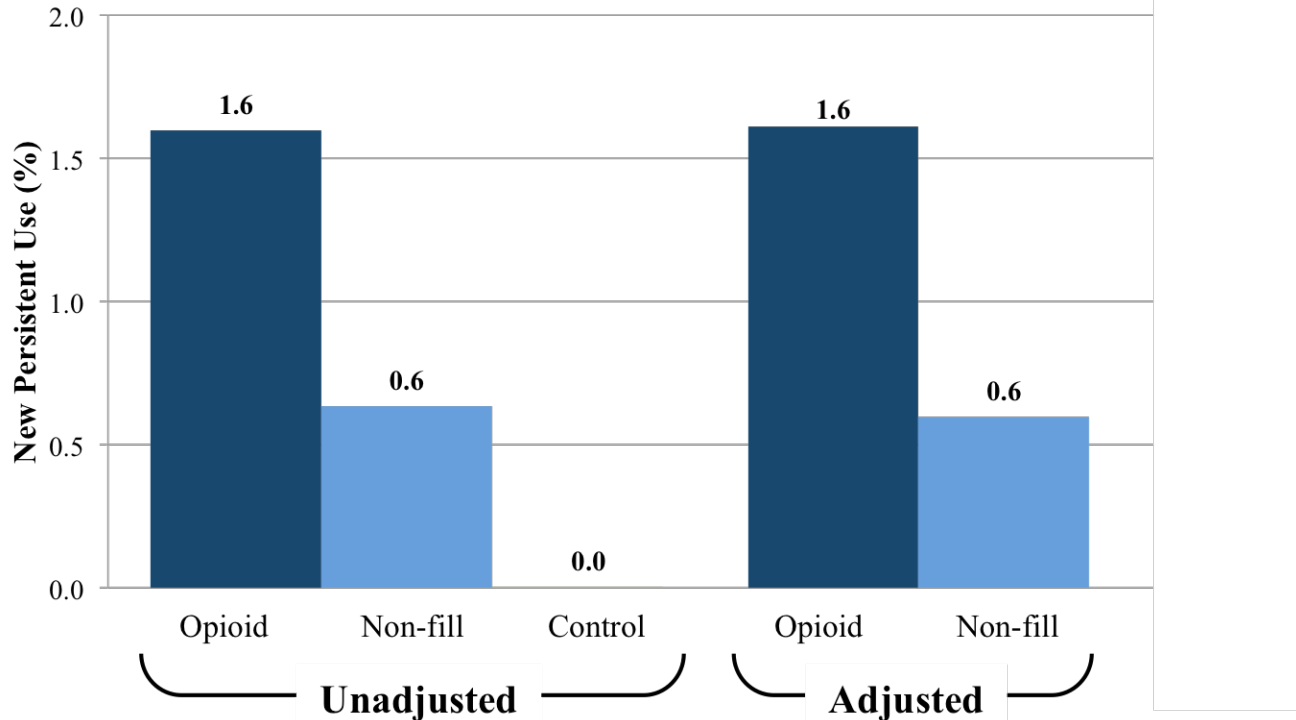
New Persistent Opioid Use

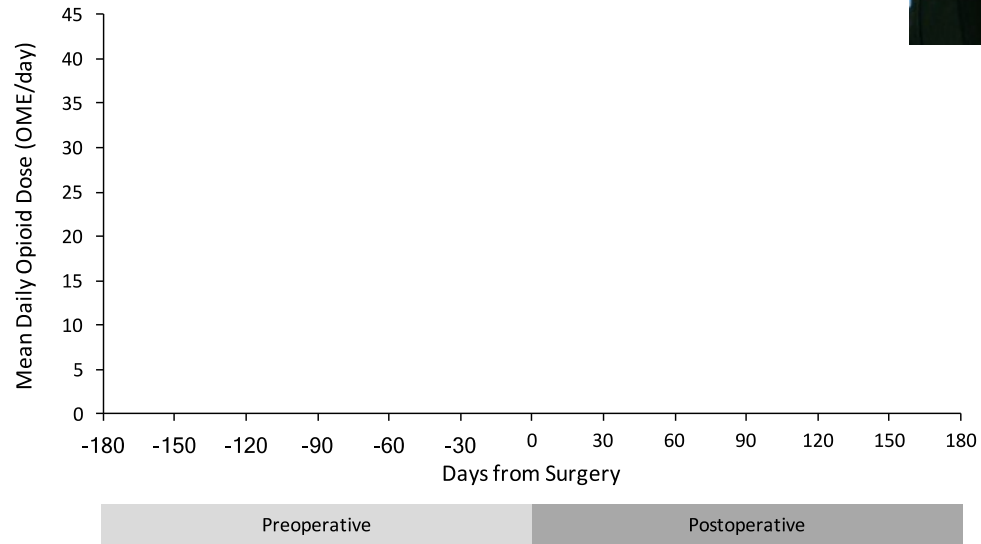


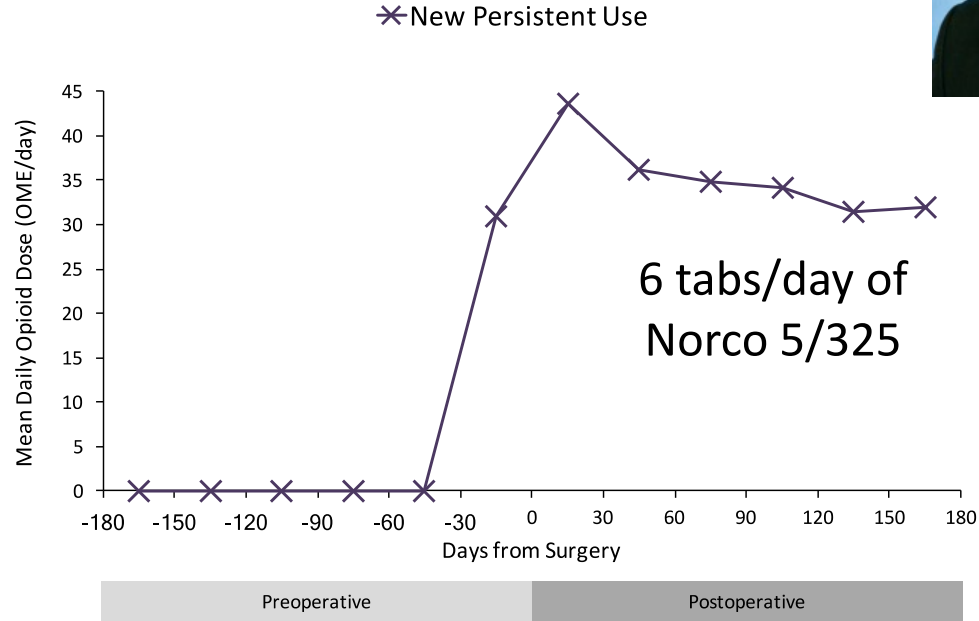
6%

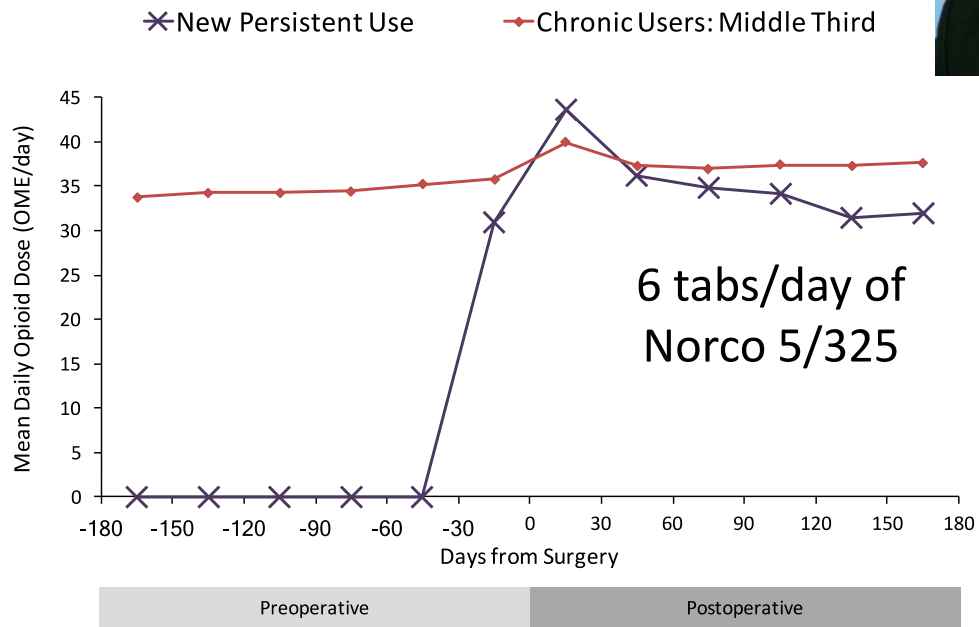
Brummett CM et al. *JAMA Surg.* 2017; 152(6).

Opioid prescription fill after extraction of wisdom teeth is independently associated with new chronic opioid use

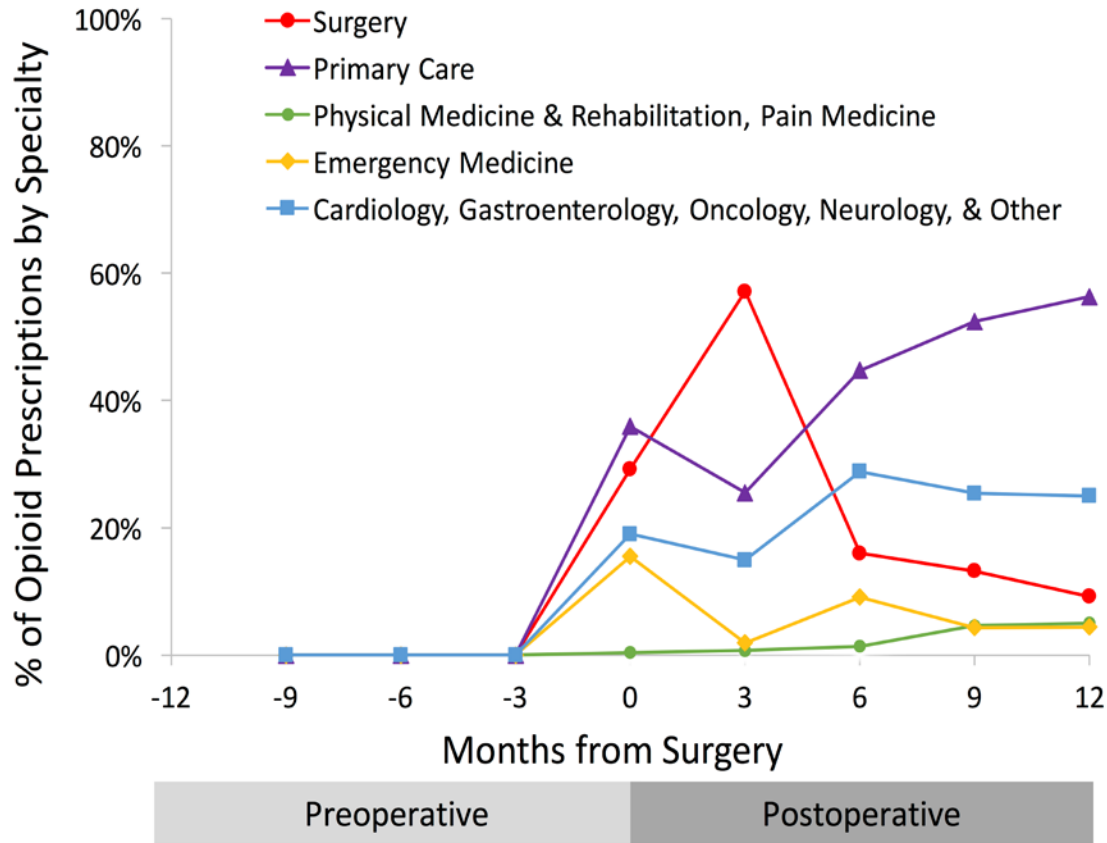








Who Prescribes for New Persistent Users?



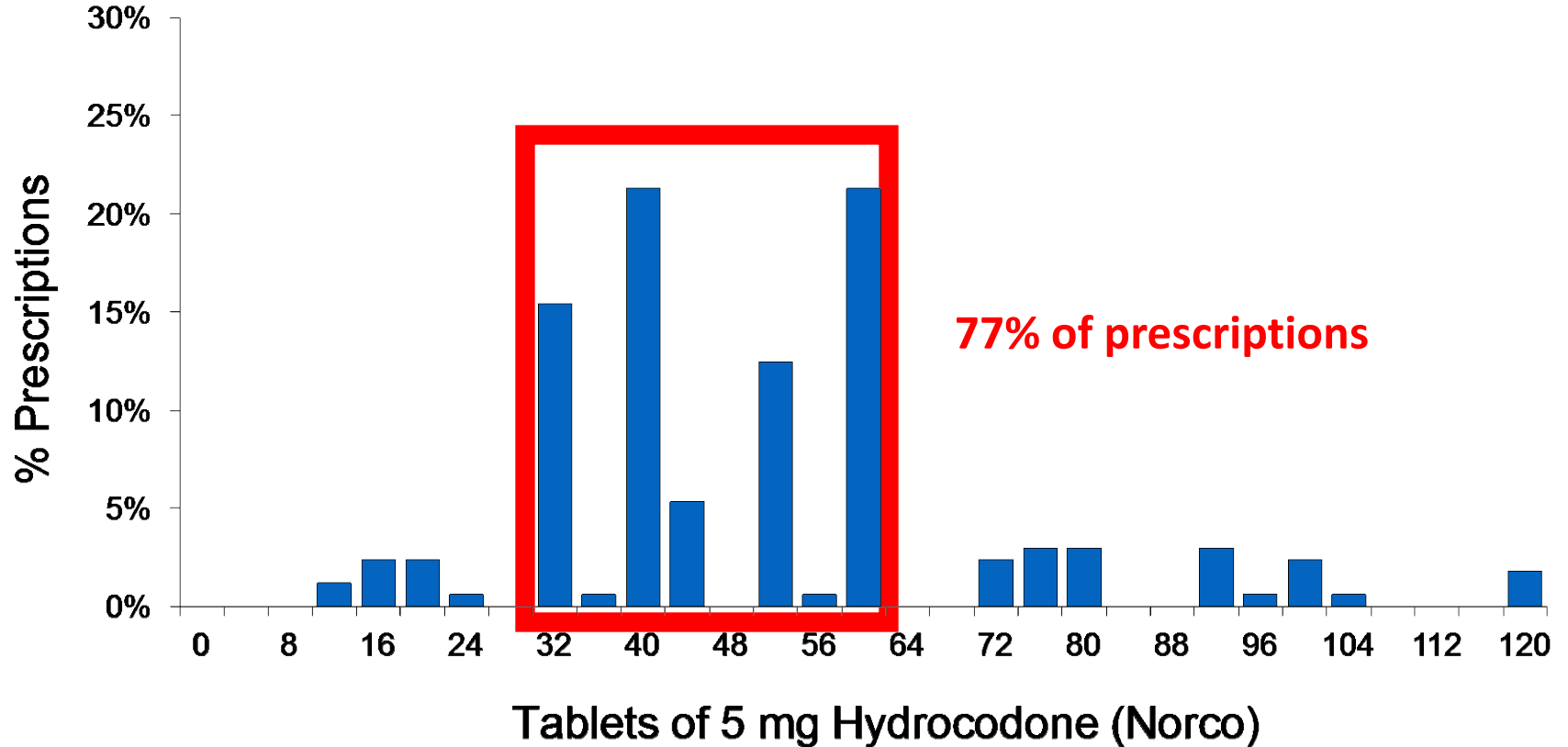
Can we improve prescribing?

Yes

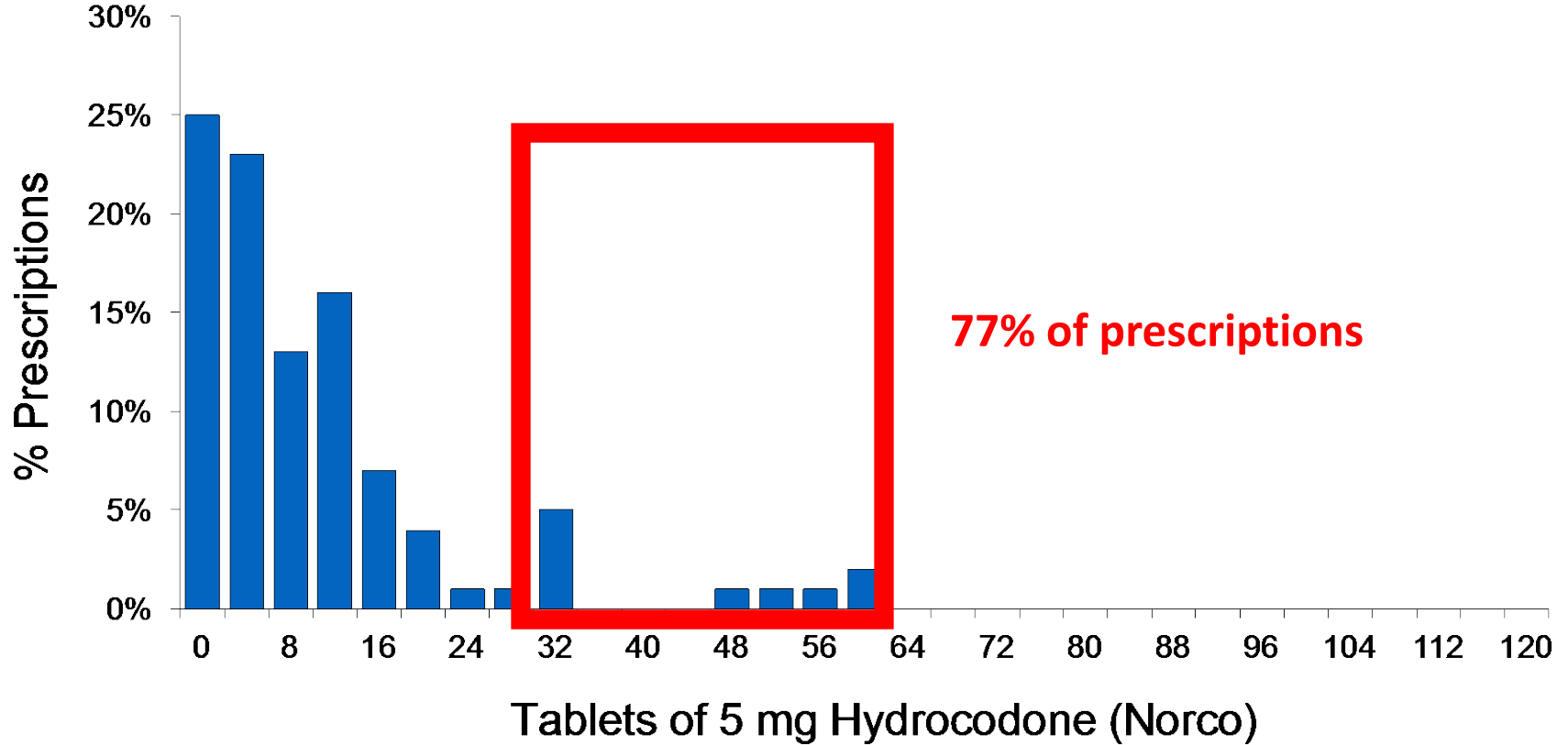


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Opioids Prescribed After Surgery



Opioids Used After Surgery



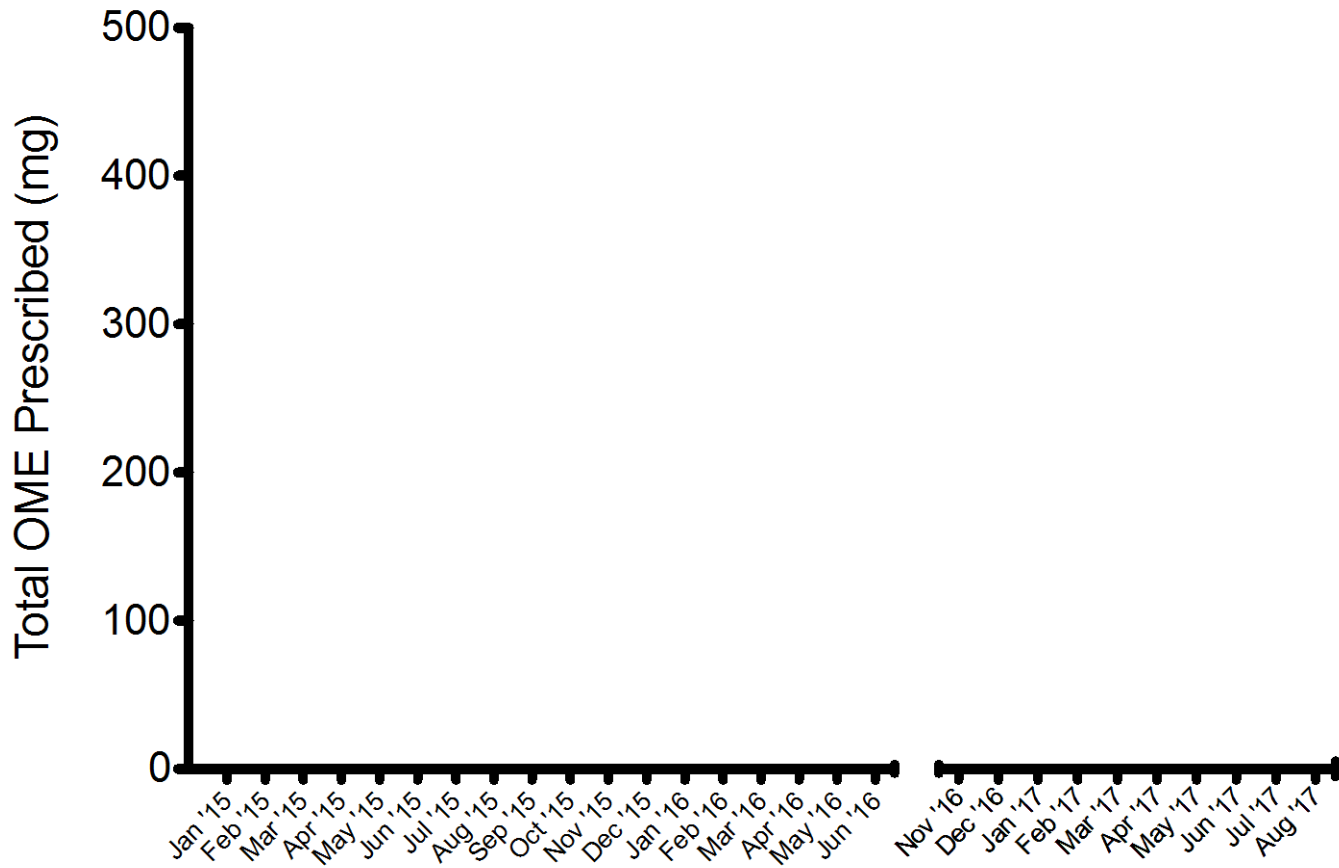
Guidelines

15 Oxycodone 5 mg 1q4-6 PRN

15 Norco 5/325 mg 1q4-6 PRN

+ Tylenol AND Motrin

+ Patient Education



Howard et al, JAMA Surg 2017, In press

Howard, R, Waljee JF, Lee JS, Brummett CM, Englesbe MJ. 2017. JAMA Surgery

370
Patients

x

↓ 35 pills
per patient

= **13,000** pills kept
out of the community



No change in calls for
refills (3-4%)



No change in patient-
reported pain scores



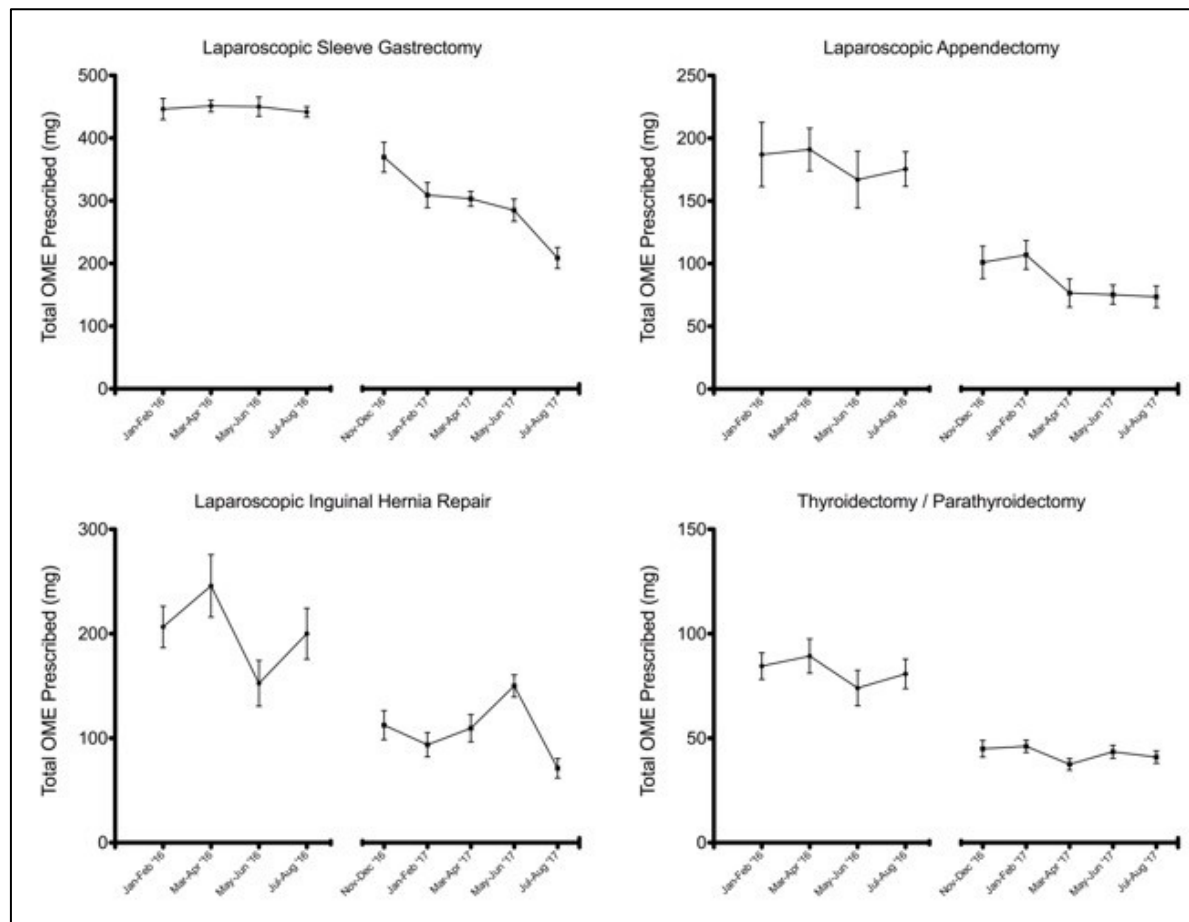
Patients consumed
fewer pills

Supersize it!



David Marchiori, Esther K. Papies, Olivier Klein, The portion size effect on food intake. An anchoring and adjustment process?, *Appetite* (2014), doi: 10.1016/j.appet.2014.06.018

Spillover Effects from Lap Chole Prescribing Recs



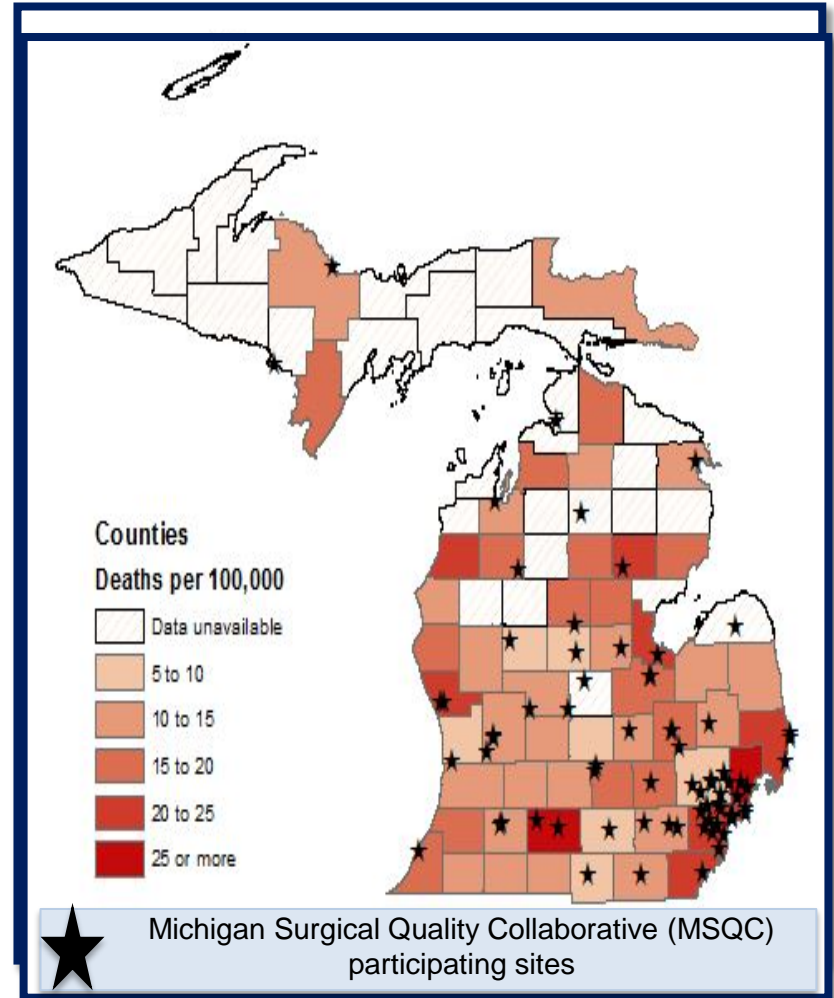
MSQCC

Michigan Surgical Quality Collaborative



ASPIRE

Anesthesiology Performance Improvement and Reporting Exchange

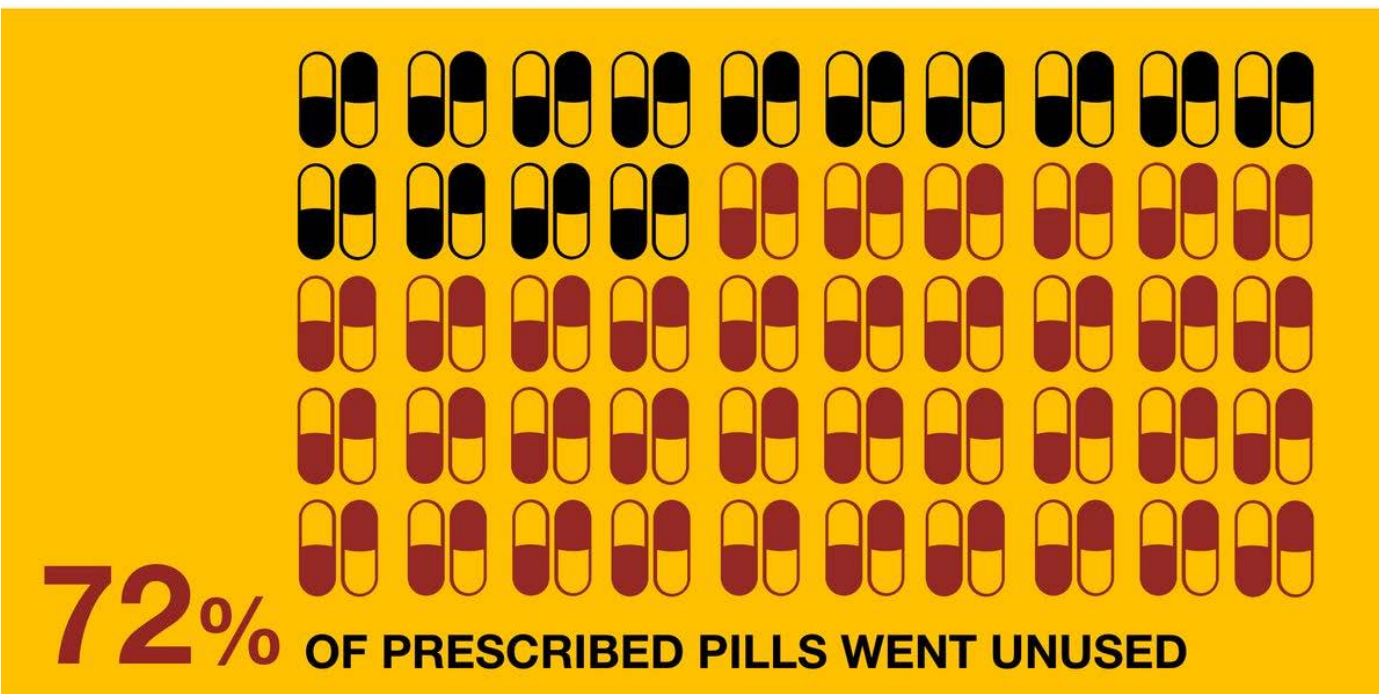


Procedure	Hydrocodone (Norco)	Hydromorphone (Dilaudid)
	5 mg tablets	
	Codeine (Tylenol #3)	2 mg tablets
	30 mg tablets	Oxycodone
	50 mg tablets	5 mg tablets
Laparoscopic Cholecystectomy	15	10
Laparoscopic Appendectomy	15	10
Inguinal/Femoral Hernia Repair (open/laparoscopic)	15	10
Open Incisional Hernia Repair	30	20
Laparoscopic Colectomy	30	20
Open Colectomy	30	20
Ileostomy/Colostomy Creation, Re-siting, or Closure	40	25
Open Small Bowel Resection or Enterolysis	30	20
Thyroidectomy	10	5
Hysterectomy		
Vaginal	20	10
Laparoscopic & Robotic	25	15
Abdominal	35	25
Wide Local Excision ± Sentinel Lymph Node Biopsy	30	20
Simple Mastectomy ± Sentinel Lymph Node Biopsy	30	20
Lumpectomy ± Sentinel Lymph Node Biopsy	15	10
Breast Biopsy	10	5
Sentinel Lymph Node Biopsy Alone	15	10

Procedure	Old Recs	New Recs	% Change	Data for Recommendation
Laparoscopic Cholecystectomy	75	75	-	Howard[1], Hill[2]
Laparoscopic Appendectomy	75	75	-	None. Analogous to lap chole.
Inguinal/Femoral Hernia Repair (open/laparoscopic)	75	75	-	Hill[2], Howard "spillover" data
Open Incisional Hernia Repair	200	150	-25%	New MSQC data(75th percentile)
Laparoscopic Colectomy	185	145	-22%	New MSQC data(75th percentile)
Open Colectomy	200	150	-25%	New MSQC data(75th percentile)
Ileostomy/Colostomy Creation, Re-siting, or Closure	-	200	-	New MSQC data(75th percentile)
Open Small Bowel Resection or Enterolysis	-	150	-	New MSQC data(75th percentile)
Thyroidectomy	-	50	-	New MSQC data(75th percentile)
Hysterectomy				
Vaginal	125	100	-20%	New MSQC data(75th percentile)
Laparoscopic & Robotic	175	125	-29%	New MSQC data(75th percentile)
Abdominal	220	185	-16%	New MSQC data(75th percentile)
Wide Local Excision ± Sentinel Lymph Node Biopsy	150	150	-	Michigan Medicine institutional guideline
Simple Mastectomy ± Sentinel Lymph Node Biopsy	150	150	-	Michigan Medicine institutional guideline
Lumpectomy ± Sentinel Lymph Node Biopsy	75	75	-	Hill[2]
Breast Biopsy	75	37.5	-50%	Hill[2]
Sentinel Lymph Node Biopsy Alone	-	75	-	Michigan Medicine institutional guideline

1. Howard R, Waljee J, Brummett C, Englesbe M, Lee J. Reduction in Opioid Prescribing Through Evidence-Based Prescribing Guidelines. JAMA Surg. 2017.
2. Hill MV, Stucke RS, McMahon ML, Beeman JL, Barth RJ, Jr. An Educational Intervention Decreases Opioid Prescribing After General Surgical Operations. Ann Surg. 2017.

Most Opioids Prescribed for Outpatient General Surgery Procedures Go Unused



Hill et al. *Ann Surg.* Sept 2016.

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ANNALS OF **SURGERY**
A Monthly Review of Surgical Science Since 1885







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VALUE Partnerships

M·T·C



Blue Shield Association
E
Exchange
QI
STY
ACTIVE

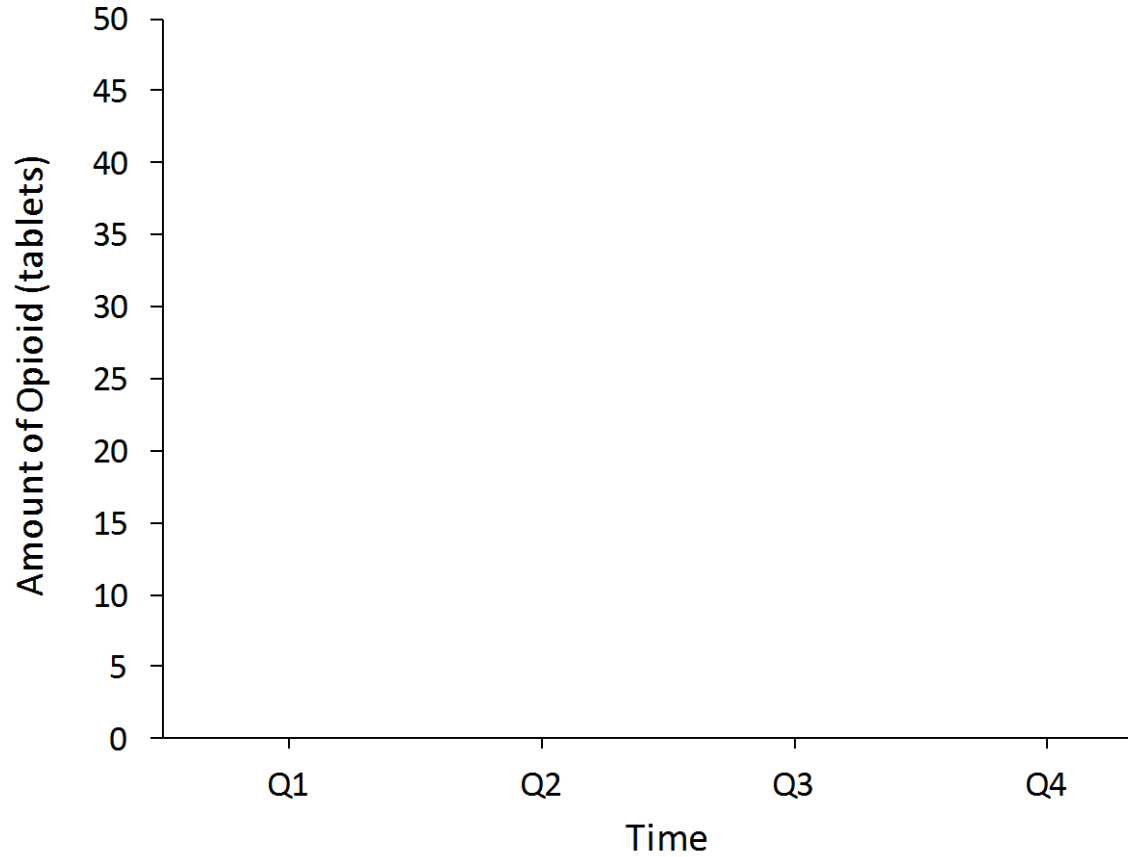
MS
Michigan Surgical
Collaborative

 **Blue Cross
Blue Shield
Blue Care Network
of Michigan**
Nonprofit corporations and independent licensees
of the Blue Cross and Blue Shield Association.

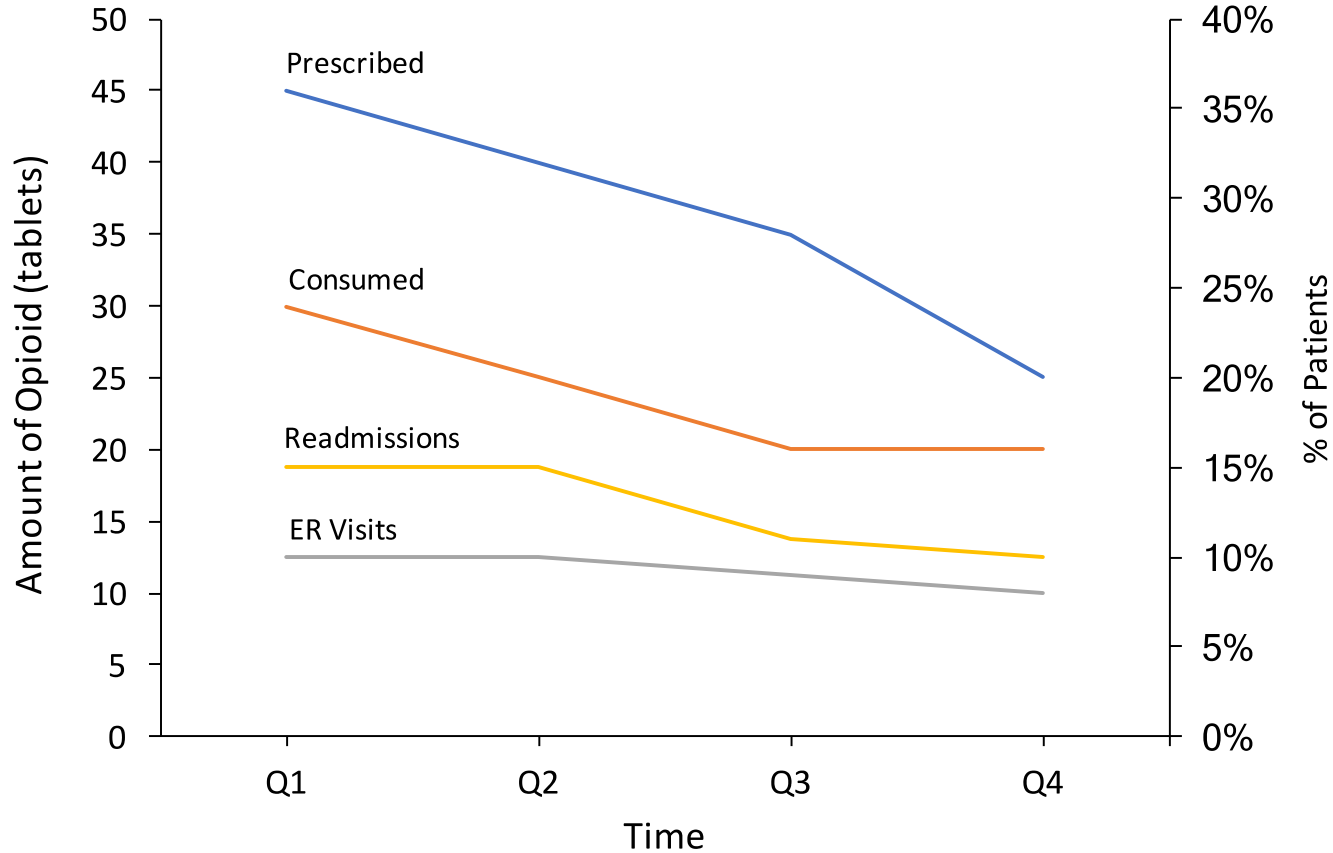
 **MEDIC**
MICHIGAN EMERGENCY DEPARTMENT
IMPROVEMENT COLLABORATIVE

 **MICHIGAN DEPARTMENT OF HEALTH & HUMAN SERVICES**
RICK SNYDER, GOVERNOR | NICK LYON, DIRECTOR.

Vision for the Future

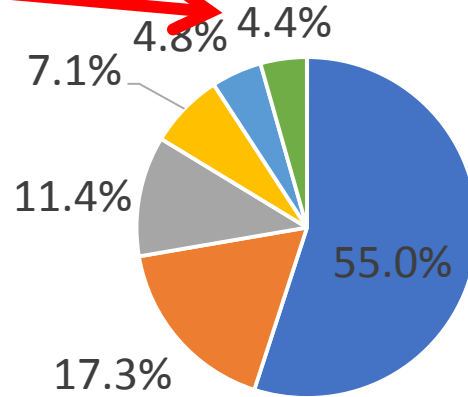


Vision for the Future



Source of Abused Prescription Painkillers

Source: CDC 2011/Drugfree.org



- Obtained free from friend or relative
- Bought from friend or relative
- Took from friend or relative without asking

- Prescribed a MD
- Other
- Got from drug dealer or stranger



Opioid Recovery Drive – September 30

Escanaba – OSF St. Francis Hospital

Gladwin - MidMichigan

Traverse City – Traverse City Police/Munson Medical

Grand Rapids – Dettmann Center

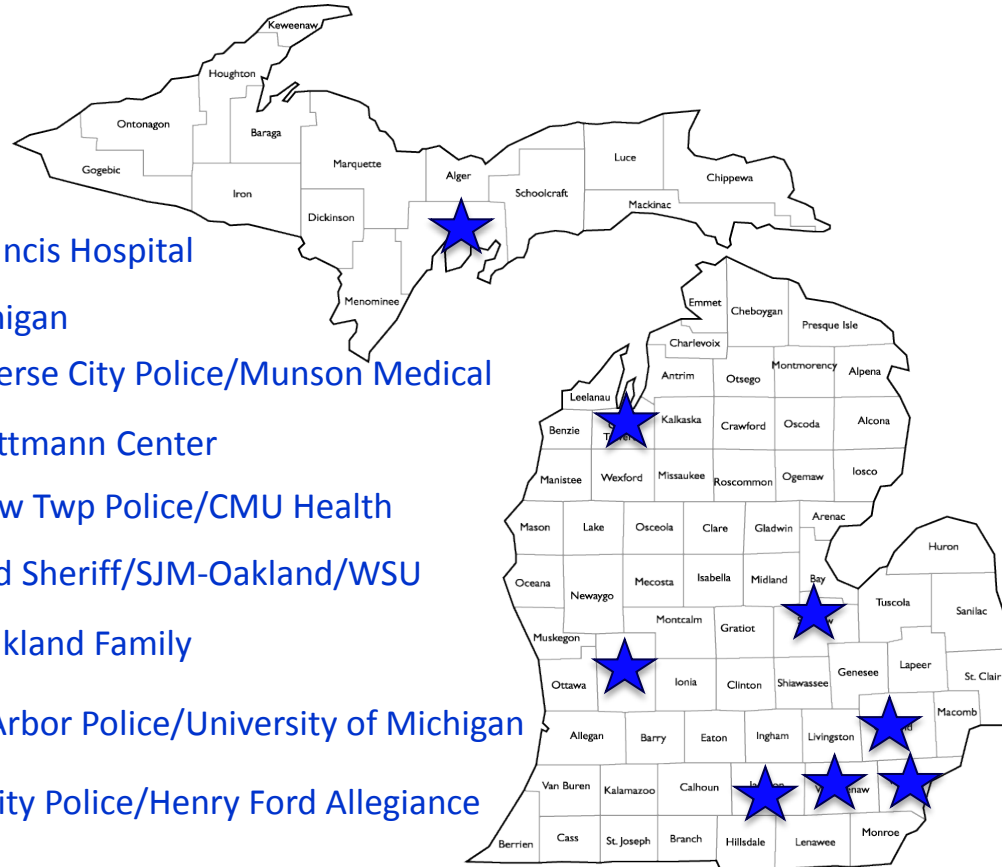
Saginaw – Saginaw Twp Police/CMU Health

Pontiac – Oakland Sheriff/SJM-Oakland/WSU

Livonia – New Oakland Family

Ann Arbor – Ann Arbor Police/University of Michigan

Jackson – Jackson City Police/Henry Ford Allegiance

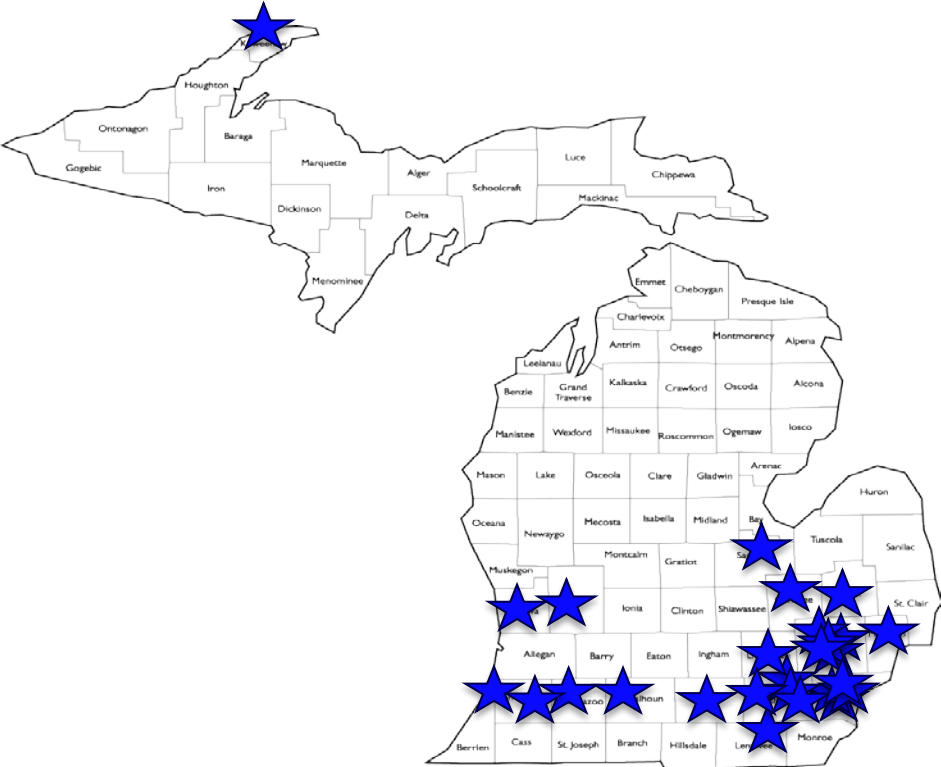




Total of all sites September 30, 2017	
Total number of people	766
Pills	
Weight of pills	900
Estimated total number of medications of interest	130,000
Opioid pills	17,500
Other medications of interest	
Benzodiazepines and sedatives	18,000
Anti-depressants	10,000
Stimulants	1,800
Additional information	
Oldest opioid from all drives	1976
Oldest opioid from this event	1984
Most common reason for opioid	Surgery

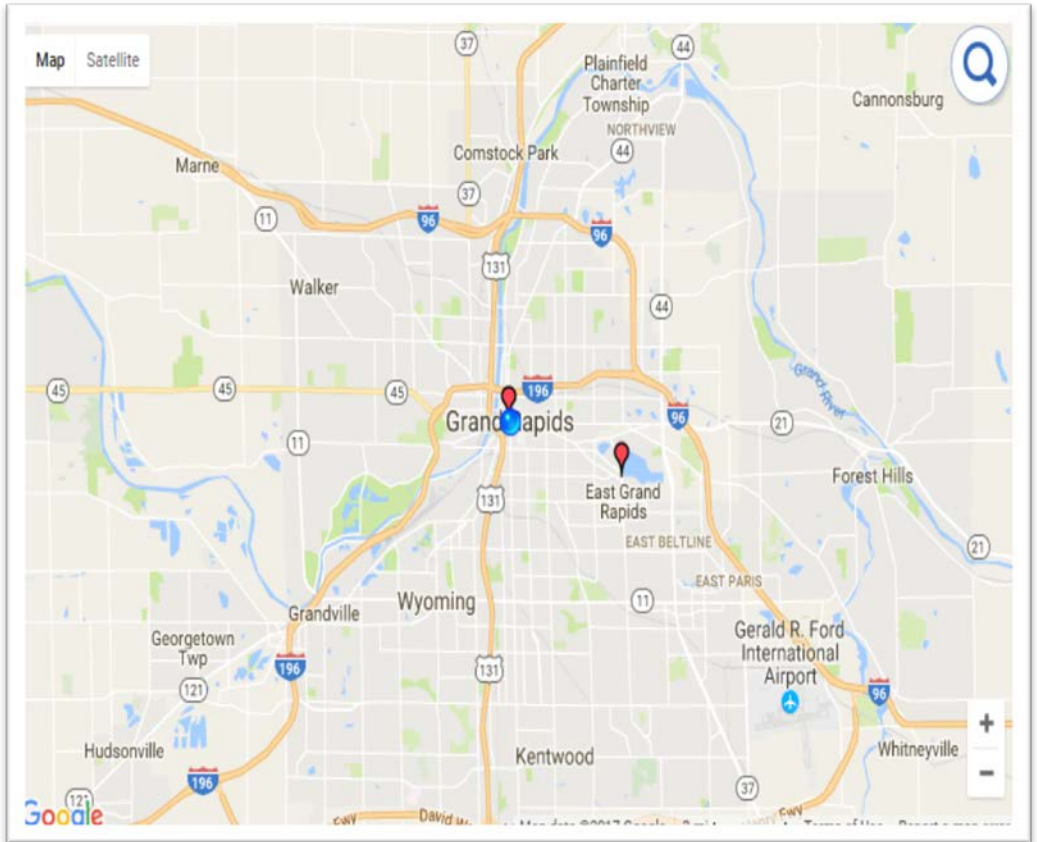
Opioid Recovery Drive – April 28, 2018

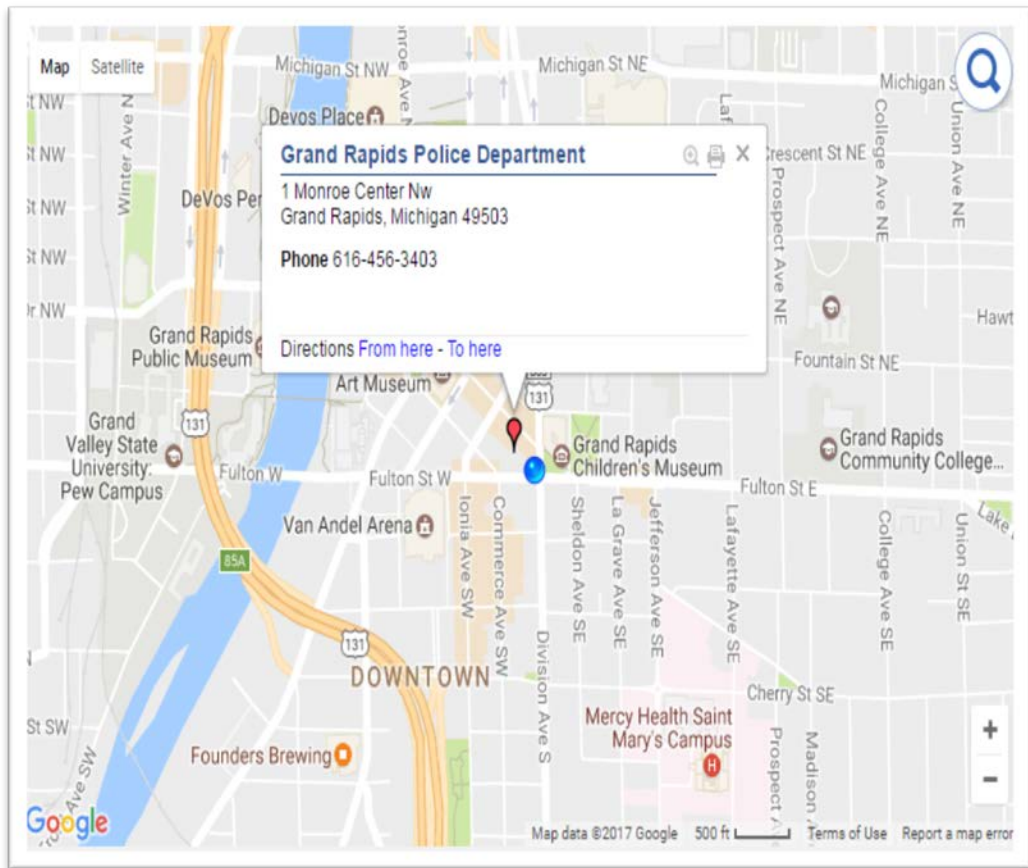
- Ann Arbor
- Battle Creek
- Chelsea
- Clinton
- Commerce
- Dearborn
- Flat Rock
- Flint
- Grand Rapids
- Jackson
- Kalamazoo
- Keweenaw County
- Lapeer
- Livonia
- Macomb
- Mattawan
- Ottawa County
- Pinckney
- Pontiac
- Royal Oak
- Saginaw
- South Haven
- Troy
- Wayne
- Whitmore Lake
- Wixom
- Ypsilanti



www.michigan-OPEN.org







A **preventative** approach
to the opioid epidemic.



Areas of Impact

Engaging
providers



Education



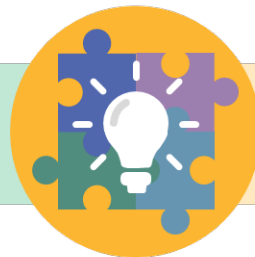
Informing
policy



Payment
reform



Local quality
improvement



Innovative
interventions

Community
outreach



At-risk
populations



Arts and
humanities



Patient Resources

Home / Patient Resources

COMING SOON: Ability to customize all brochures with your organization's logo!



Opioid Facts Brochure

Learn the facts about opioid pain medications including:

- What is an opioid
- Using opioids safely
- Opioid addiction
- Safe disposal of opioids

[DOWNLOAD BROCHURE](#)

Recent Articles



Dr. Brummett Awarded the 2017 James E. Cottrell Presidential Scholar Award
November 15, 2017



For 1 in 10 Cancer Patients, Surgery Means Opioid Dependence
November 8, 2017



Statewide drug takeback event nets 900 pounds of opioids & more
October 27, 2017



Dr. Brummett Speaks at U-M Wolverine Caucus
October 15, 2017

Do you know
the facts about
**opioid pain
medications?**



OPEN
OPIOID PRESCRIBING ENGAGEMENT NETWORK

Talking to your doctor about pain control



Talking to Your Doctor about Pain Control Brochure

Ask questions and know the facts before using opioids for your pain.

- What is an opioid
- Questions to ask your provider
- Things to remember after your surgery
- Safe disposal of opioids

DOWNLOAD BROCHURE

Mindful Breathing can help manage pain and anxiety after surgery.



1 Sit in a comfortable position. It may be helpful to close your eyes or to focus on an object.

Pain Management Techniques Brochure

Learn about strategies for managing pain and anxiety after surgery including:

- Mindful breathing
- Positive daily reflection

DOWNLOAD PRINTER-FRIENDLY BROCHURE

October 6, 2017



Michigan OPEN sponsors "Navigating the New and Improved MAPS"

July 19, 2017

Recent Videos



Changing Opioid Prescribing in Surgery

September 28, 2017



The Michigan Opioid Prescribing Engagement Network

May 28, 2016



Surgery and Opioids

May 25, 2016



The Opioid Epidemic

May 25, 2016



Targeting Opioid Abuse via Surgery-Related Prescribing

May 25, 2016

Patient Resources

[Home](#) / [Patient Resources](#)

Do you have leftover prescription pain medication?

Prescription pain medications (commonly called opioids) are often involved in accidental poisonings and intentional misuse.

It is important to safely dispose of these medications when you are done using them.



This brochure explains some environmentally-friendly options for safe disposal.



Medication Disposal Map Brochure

Learn how to safely dispose of medication using:

- Our interactive online map of Michigan disposal sites
- Other environmentally-friendly alternatives

[DOWNLOAD BROCHURE](#)

Recent Articles



Michigan OPEN sponsors "Navigating the New and Improved MAPS"

July 19, 2017



Dr. Waljee featured at PULSE: On the Front Lines of Health Care

June 16, 2017



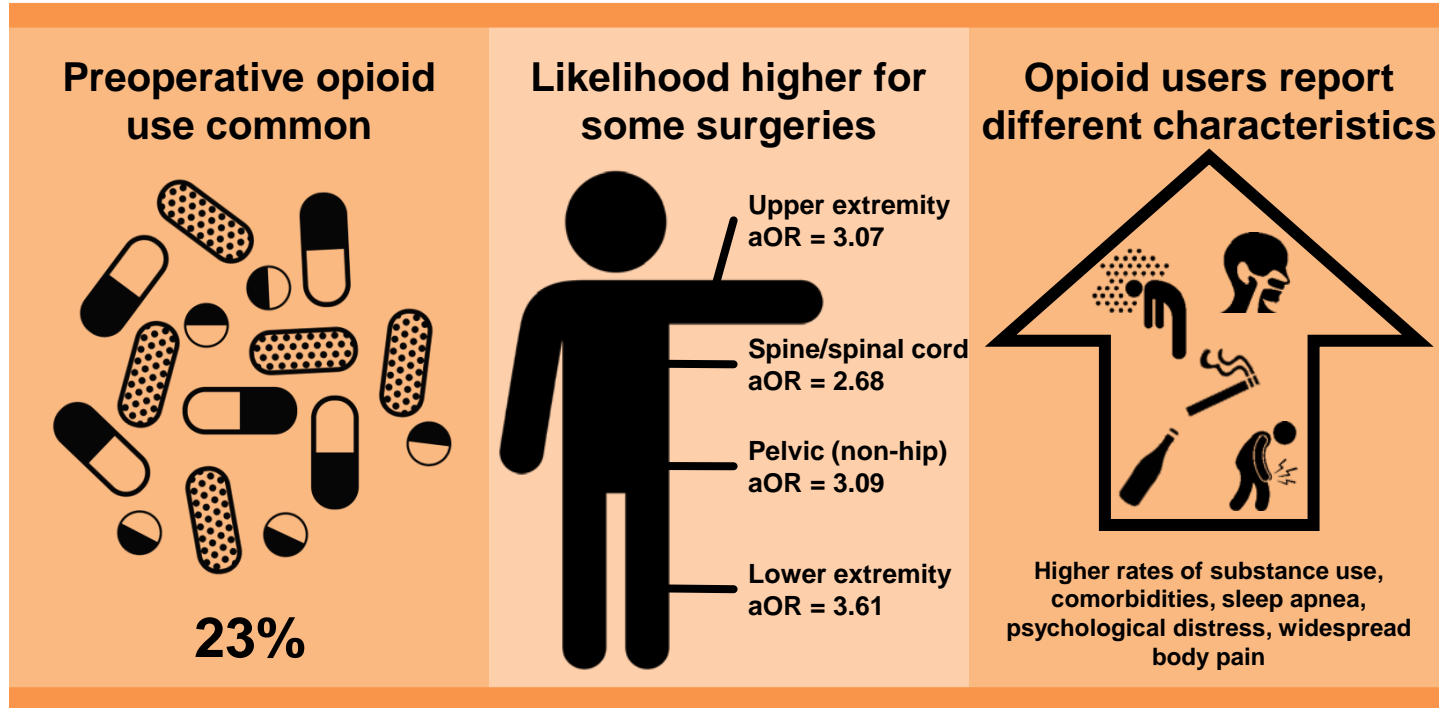
Four hours. Six locations. 15,000 opioids out of circulation.

May 29, 2017



Michigan OPEN receives funding as part of State Targeted Response to the

Opioid Use Before Surgery: 34,186 participants from a single tertiary care center



Opioid Use Before Surgery: 34,186 participants from a single tertiary care center

Preoperative opioid
use common

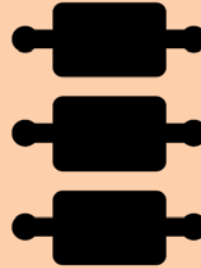


23%

Prevalence higher for
some surgeries



Orthopedic
Surgery (65%)



Neurosurgery
Spine (55%)

Opioid users report
different characteristics

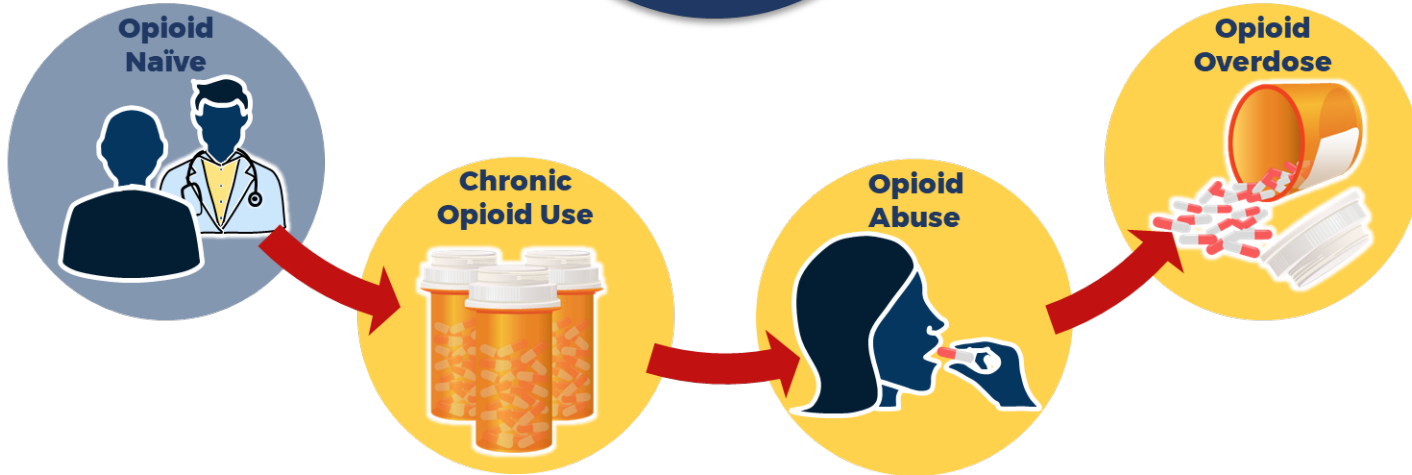


Higher rates of substance use,
comorbidities, sleep apnea,
psychological distress, widespread
body pain

Precision Opioid Prescribing



PRECISION HEALTH
UNIVERSITY OF MICHIGAN



Proposed precision preventative strategy

Focus of existing public health measures

Michigan Genomics Initiative

over

55,000

participants

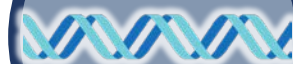
8

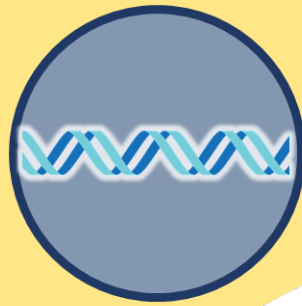


The purpose of a **biorepository** is to store bodily materials (biospecimens) and personal health information for research projects that have not yet been planned. The biorepository combines the biospecimens and health information into “books” that can later be shared with researchers to help advance medicine.

This pamphlet provides information about participating in a biorepository at the University of Michigan by donating your biospecimens and health information.

opioid naïve

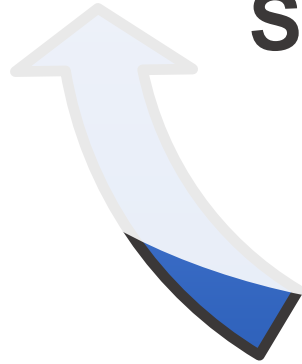




Reductions in
patient opioid
consumption

New prescribing
recommendations
based on patient
consumption

**Monitor
Satisfaction,
PROs**



Reductions in
opioid prescribing



Michigan OPEN Co-Directors



Jennifer Waljee, MD, MPH,
MS

Michael Englesbe, MD
Transplant Surgery

Chad Brummett, MD
Pain Medicine/Anesthesiology

OPEN



OPIOID PRESCRIBING ENGAGEMENT NETWORK

Learn more about our work:

<http://michigan-open.org>



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<http://precisionhealth.umich.edu>

<https://www.michigan-genomics.org>



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@drchadb



Tools, resources and materials to support your medical staff

Tools, resources and materials

- AMA opioid task force: <https://www.end-opioid-epidemic.org/>
- AMA e learning module, “A Primer on the Opioid Morbidity and Mortality Crisis: What Every Prescriber Should Know”:
<https://cme.ama-assn.org/Activity/4896593/Detail.aspx>
- SHM, “Reducing Adverse Drug Events Related to Opioids (RADEO) Guide: <https://www.hospitalmedicine.org/clinical-topics/opioid-safety/>

