

The Role of Acute Care Prescribing in the Opioid Epidemic

Chad M. Brummett, M.D.

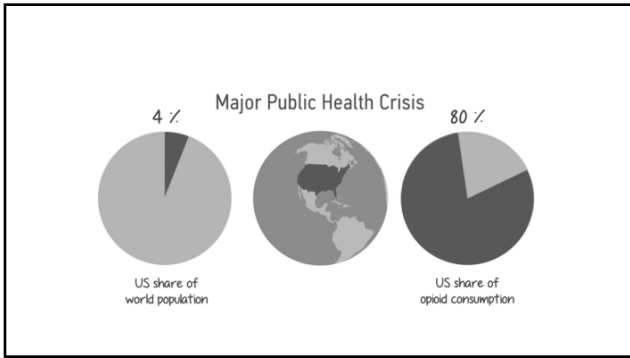
Associate Professor
Department of Anesthesiology
Division of Pain Medicine
University of Michigan Medical School
Email: cbrummett@med.umich.edu
www.michigan-OPEN.org
<http://medicine.umich.edu/dept/pain-research>
Twitter: @drchadb



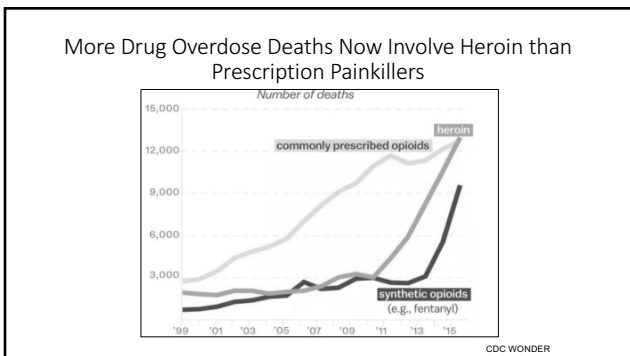
Disclosures and Funding

- **Funding**
 - NIAMS/NIH: R01 AR060392; P50 AR070600
 - NIDA/NIH: R01 DA038261; R01 DA042859
 - Michigan Department of Health and Human Services
 - SAMHSA
 - 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



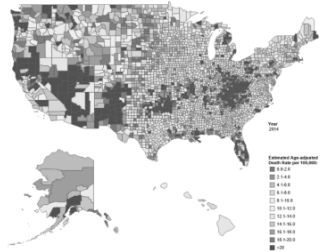






Dr

Drug Poisoning Mortality: 2014



Obtained from <https://maps.cdc.gov/ncho-data-visualization/drug-poisoning-mortality/>

The Wide Variation Among Counties Suggests a Lack of Consistency Among Providers When Prescribing Opioids



CDC Vital Signs, July 2017

Faces of the opioid epidemic



How did we get here?



ADDICTION RARE IN PATIENTS TREATED WITH NARCOTICS

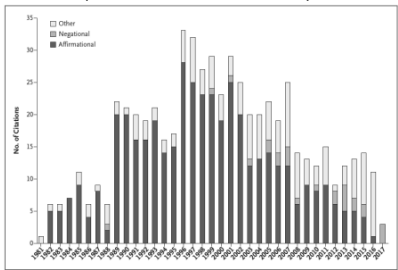
To the Editor: Recently, we examined our current files to determine the incidence of narcotic addiction in 39,946 hospitalized medical patients¹ who were monitored consecutively. Although there were 11,882 patients who received at least one narcotic preparation, there were only four cases of reasonably well documented addiction in patients who had no history of addiction. The addiction was considered major in only one instance. The drugs implicated were meperidine in two patients,² Percodan in one, and hydromorphone in one. We conclude that despite widespread use of narcotic drugs in hospitals, the development of addiction is rare in medical patients with no history of addiction.

JANE PORTER
HERSHEL JICK, M.D.
Boston Collaborative Drug
Surveillance Program
Waltham, MA 02154 Boston University Medical Center

Porter J, New Engl J Med 1980; 302 (2)

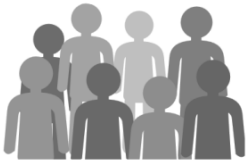


NEJM letter regarding opioid addiction misrepresented and heavily cited



Leung A, et al. (N Engl J Med 376:22)

For Whom Do We Prescribe?




Opioid naive



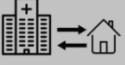
Chronic 8%



Intermittent 30%

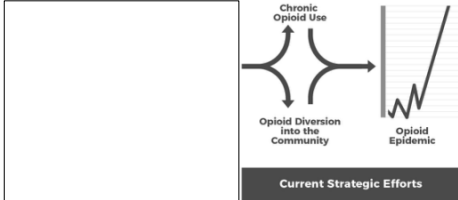
Pre-Operative Opioid Use and Associated Outcomes after Major Abdominal Surgery



Increased Costs Per Hospitalization	Increased Rate of Complications	Increased Rate of Readmissions
 +\$2,341 (avg. additional cost / patient)	 16% → 20% (% of patients)	 6% → 10% (% of patients)

Cron DC, Englebe MI, Bolton CL, Joseph MT, Carrier KL, Moser SE, Waljee JF, Hilliard PE, Khetarpal S, Brummett CM. Annals of Surgery 2016.

Preventing Chronic Opioid Use and Abuse Before it Starts




Chronic Opioid Use

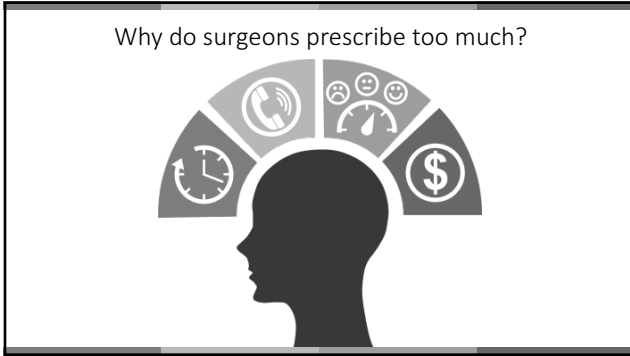
Opioid Diversion into the Community

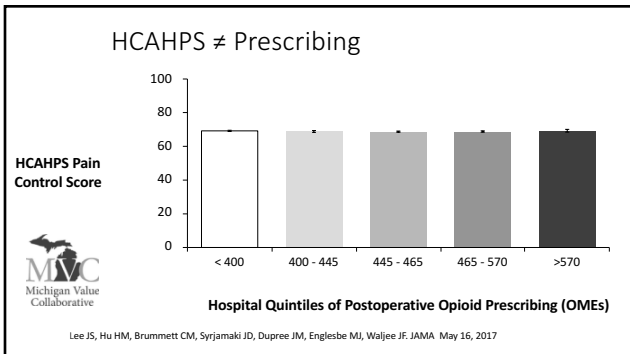
Opioid Epidemic

Current Strategic Efforts

Our Role

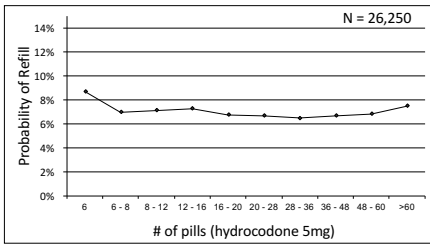








Quantity Does Not Predict Refill



Sekhri S, Arora NS, Cottrell H, Baerg T, Duncan A, Hu HM, Englesbe MJ, Brummett C, Wajjee JF, Ann Surg 2017

Opioid naive

Chronic 8%



Intermittent 30%

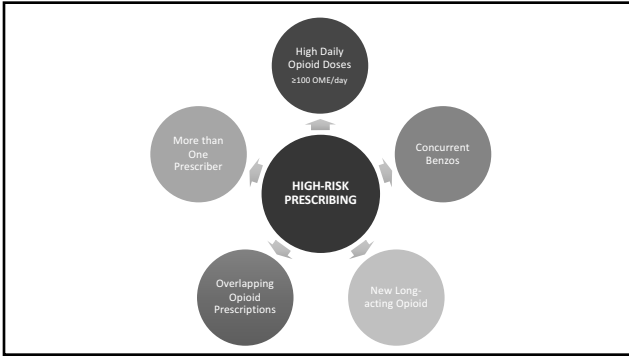
New Persistent Use

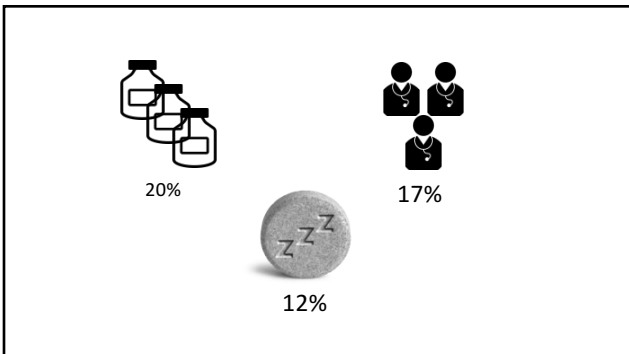
New Persistent Opioid Use

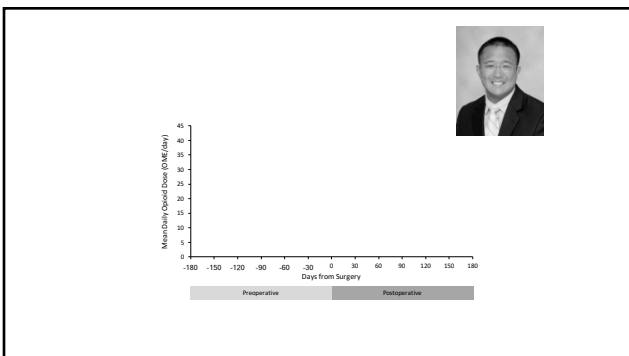


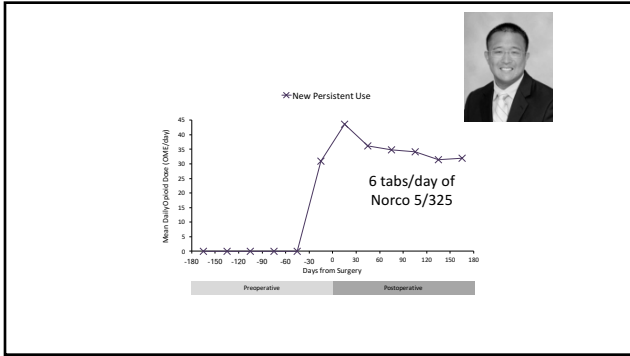
6%

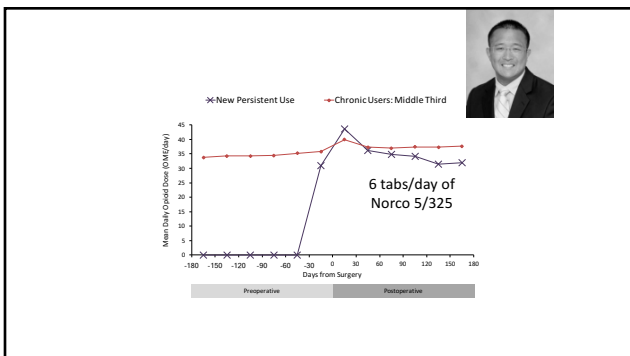
Brummett CM et al. JAMA Surg. 2017.

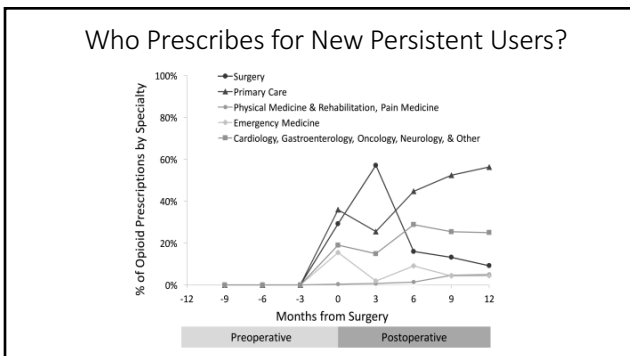






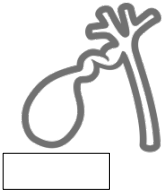


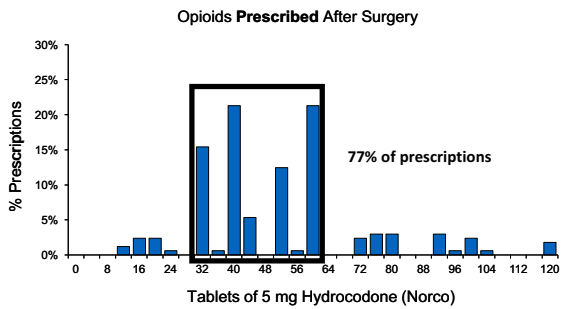




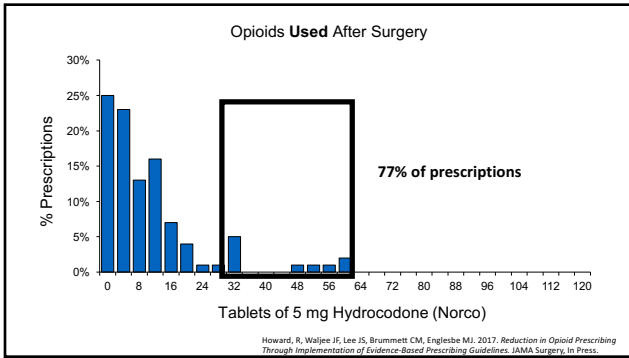
Can we improve prescribing?

Yes





Howard, R, Walje JF, Lee JS, Brummett CM, Englebe MJ. 2017. Reduction in Opioid Prescribing Through Implementation of Evidence-Based Prescribing Guidelines. JAMA Surgery. In Press.



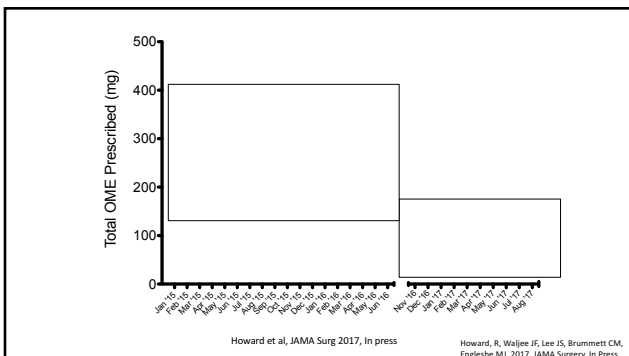
Guidelines

15 Oxycodone 5 mg 1q4-6 PRN


15 Norco 5/325 mg 1q4-6 PRN

+ Tylenol AND Motrin


+ Patient Education




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

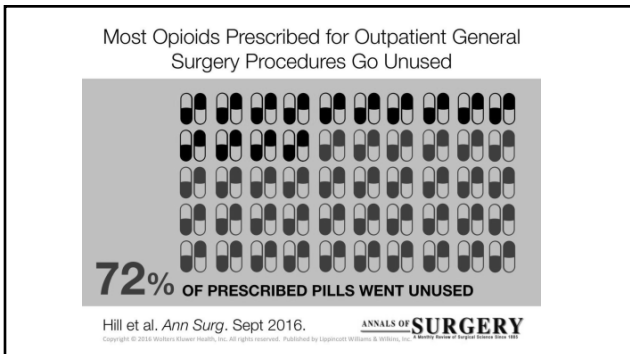
Supersize it!

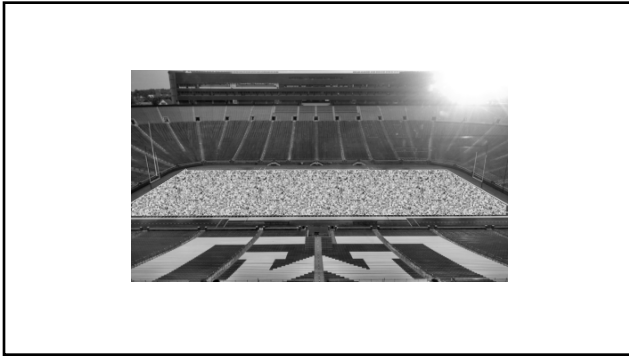


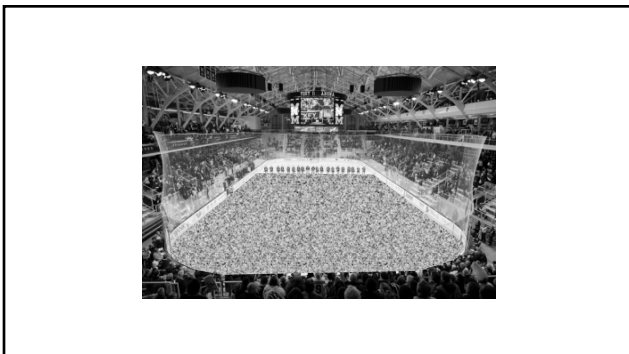
David Marchion, Esther K. Fajen, Olivier Klein, The portion size effect on food intake: An anchoring and adjustment process? Appetite (2014), doi:10.1016/j.appet.2014.06.018



PROCEDURE	HYDROCODONE (NORCO) 5 mg tablets	OXYCODONE 5 mg tablets
	CODEINE (TYLENOL #3) 30 mg tablets	
	TRAMADOL 50 mg tablets	
Laparoscopic Cholecystectomy	15	10
Laparoscopic Appendectomy	15	10
Inguinal/Femoral Hernia Repair (open/laparoscopic)	15	10
Open Incisional Hernia Repair	50	35
Laparoscopic Colectomy	35	25
Open Colectomy	40	25
Hysterectomy		
Vaginal	25	15
Laparoscopic & Robotic	35	25
Abdominal	45	30







MSQC
Michigan Surgical Quality
Collaborative

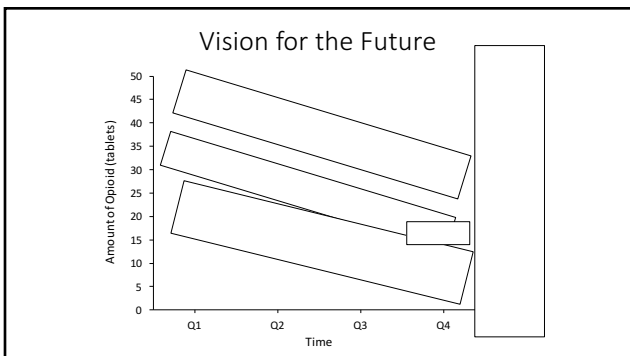
ASPIRE
Anesthesiology Performance Improvement and Reporting Exchange

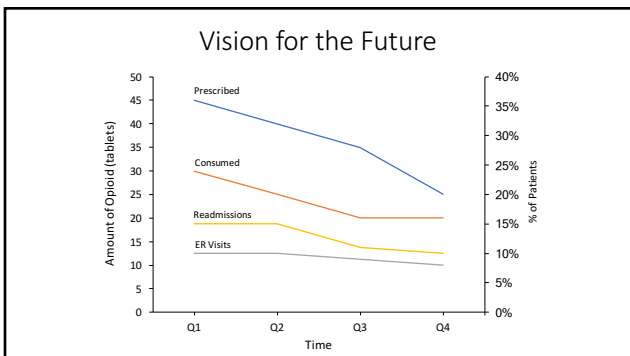
Counties
Deaths per 100,000

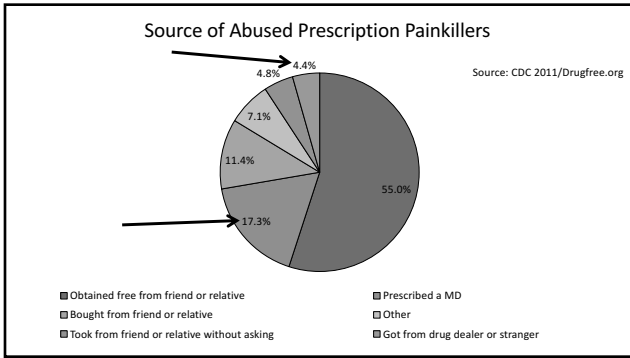
- Data unavailable
- 5 to 10
- 10 to 15
- 15 to 20
- 20 to 25
- 25 or more

★ Michigan Surgical Quality Collaborative (MSQC) participating sites

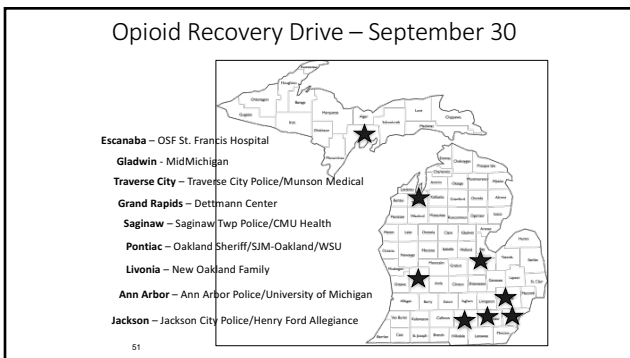
















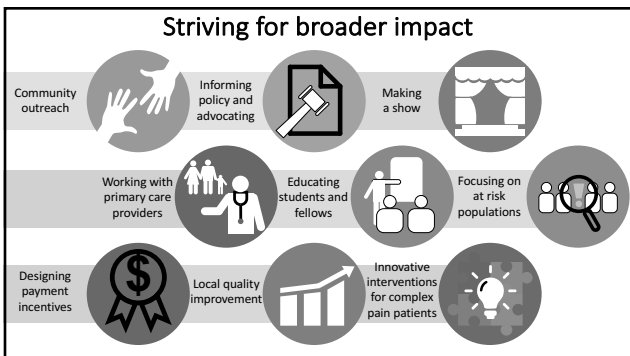
Total of all sites September, 2017	
Total number of people	790
Pills	900
Weight of pills	900
Estimated total number of medications of interest	130,000
Opium pills	17,500
Other medications of interest	
Benzodiazepines and sedatives	18,000
Anti-depressants	10,000
Stimulants	1,800
Additional information	
Opium spilled from all drives	1975
Opium spilled from this event	1984
Most common reason for opium	Surgey

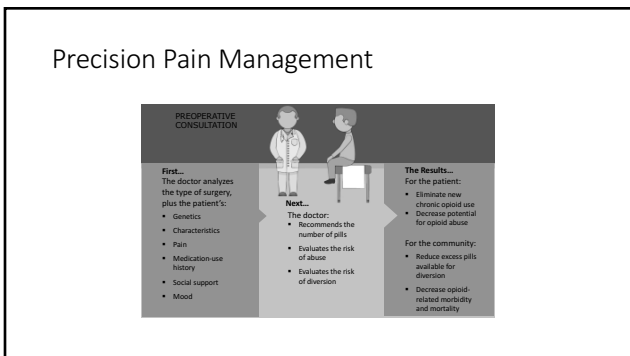
www.michigan-OPEN.org

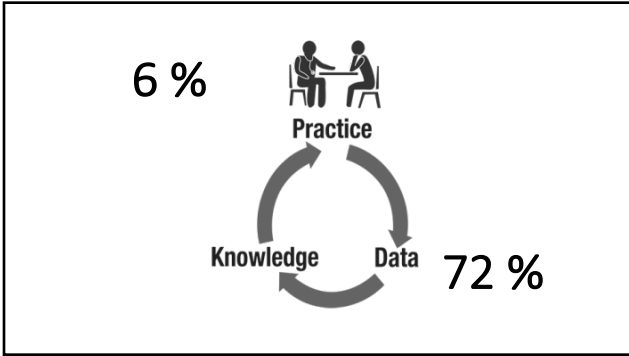


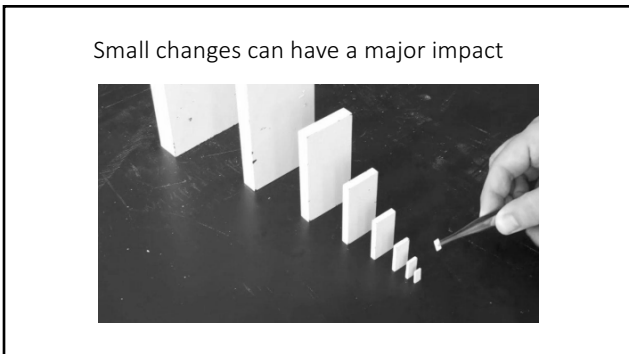


















OPEN
OPIOID PRESCRIBING ENGAGEMENT NETWORK

Learn more about our work:
<http://michigan-open.org/>
