Opioid Prescribing Distribution

What if it's not just a few bad apples?

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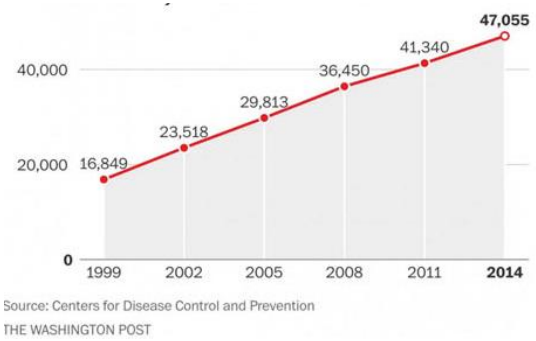
Hospitalist Group

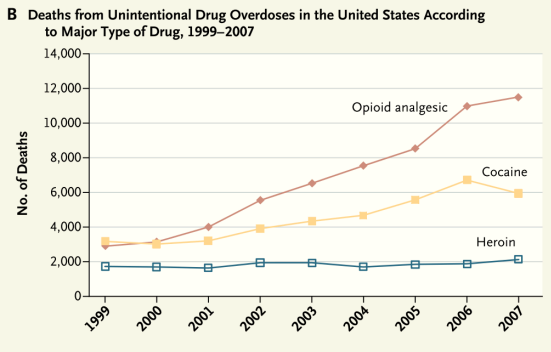
Background / Motivation

- Leading cause of accidental death
  - Drug overdose (>40K/year)[1,2]



- *Prescription* opioid overdose deaths
  - Exceed cocaine and heroin combined[1]

- Opioid prescription volume
  - Increased 10X from 1990 to 2010[1]



1. Okie, S. A flood of opioids, a rising tide of deaths. *N. Engl. J. Med.* **363,** 1981–5 (2010)
2. Jones, C. M., Mack, K. A. & Paulozzi, L. J. Pharmaceutical Overdose Deaths, United States, 2010. *JAMA* **309,** 657–659 (2013)

Who's Prescribing the Opioids?

The NEW ENGLAND JOURNAL of MEDICINE

Abusive Prescribing of Controlled Substances — A Pharmacy View

Mitch Betses, R.Ph., and Troyen Brennan, M.D., M.P.H

Doctor convicted of murder for patients' drug overdoses gets 30 years to life in prison

Los Angeles Times

STAT | Reporting from the frontiers of health and medicine

POLITICS

Florida crackdown on pill mills drives down opioid overdose deaths

- "Pill mills" and "bogus pain clinics?"[3,4]
- California Worker's Compensation:
  - ~80% of opioids from 10% of prescribers[5]
- Is the problem just a few outliers?
  - Implies general use is safe and effective?

3. Rosenau, A. M. Guidelines for opioid prescription: The devil is in the details. *Ann. Intern. Med.* **158,** 843–844 (2013).
4. Betses, M. & Brennan, T. Abusive prescribing of controlled substances--a pharmacy view. *N. Engl. J. Med.* **369,** 989–91 (2013)
5. Ireland, J. & Johnson, G. Prescribing Patterns of Schedule II Opioids in California Workers' Compensation. (2011)

Medicare Prescription Data

- >55 million Americans >65 or disabled
- ~2/3 with Part D Prescription Coverage

- Public data at individual prescriber level
  - Prescriber, Specialty and Location
  - Drug, Quantity and Cost

Medicare Claims 2013	Prescribers	Claims	Cost
All Drugs	808,020	1,188,393,892	$80,941,763,731
Opioids inc Hydrocodone	381,575	56,516,854	$2,812,243,687
Opioids exc Hydrocodone	199,925	22,830,450	$2,246,942,747

Part D Prescriber. *Medicare Provid. Util. Paym. Data* 2015. Available at: http://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/Medicare-Provider-Charge-Data/Part-D-Prescriber.html

Example Data

Previous queries

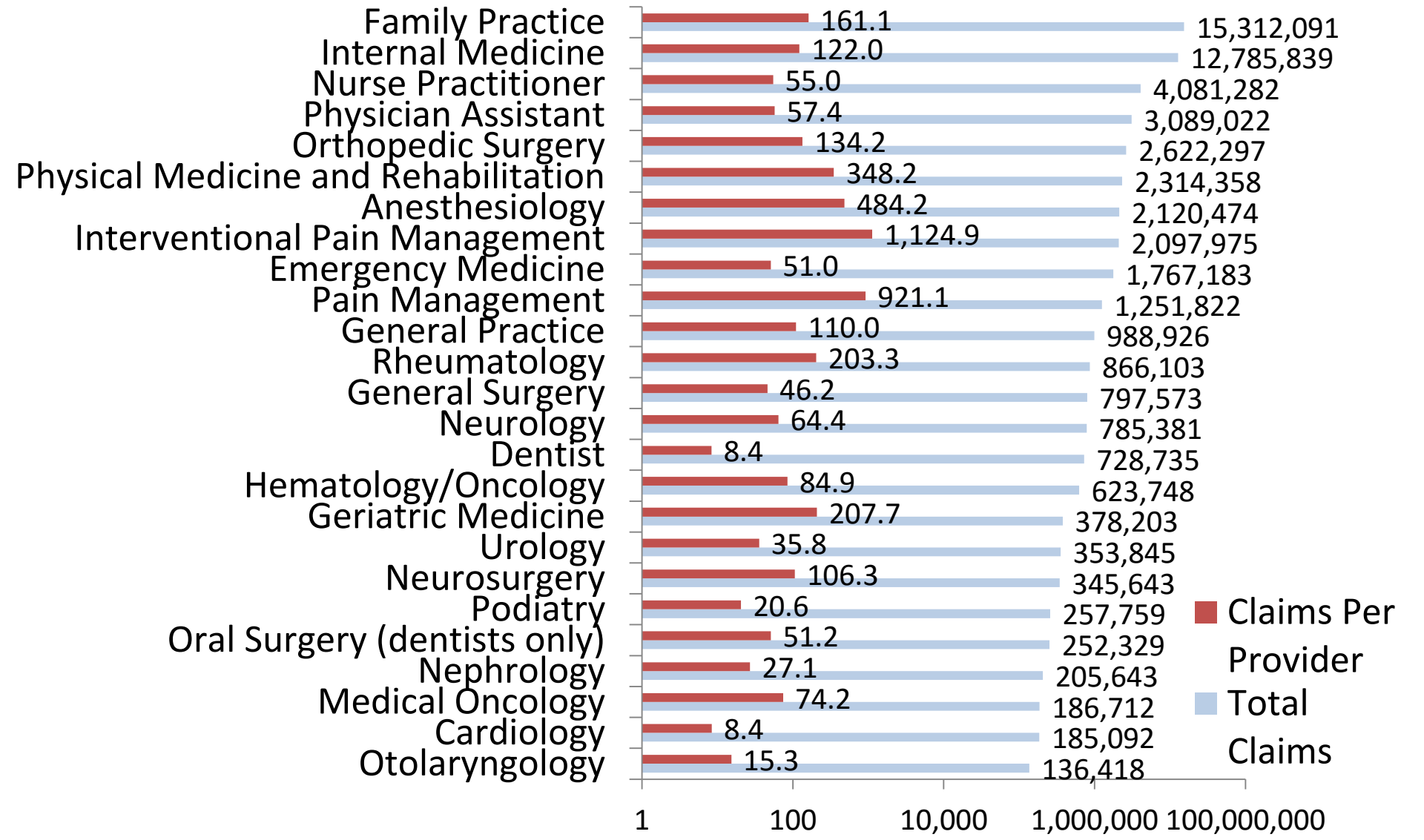
```
select npi, nppes_provider_city, nppes_provider_state, specialty_desc, generic_name, total_claim_count, total_drug_cost
from partd_prescriber
where specialty_desc = 'Addiction Medicine'
limit 100
```

Output pane

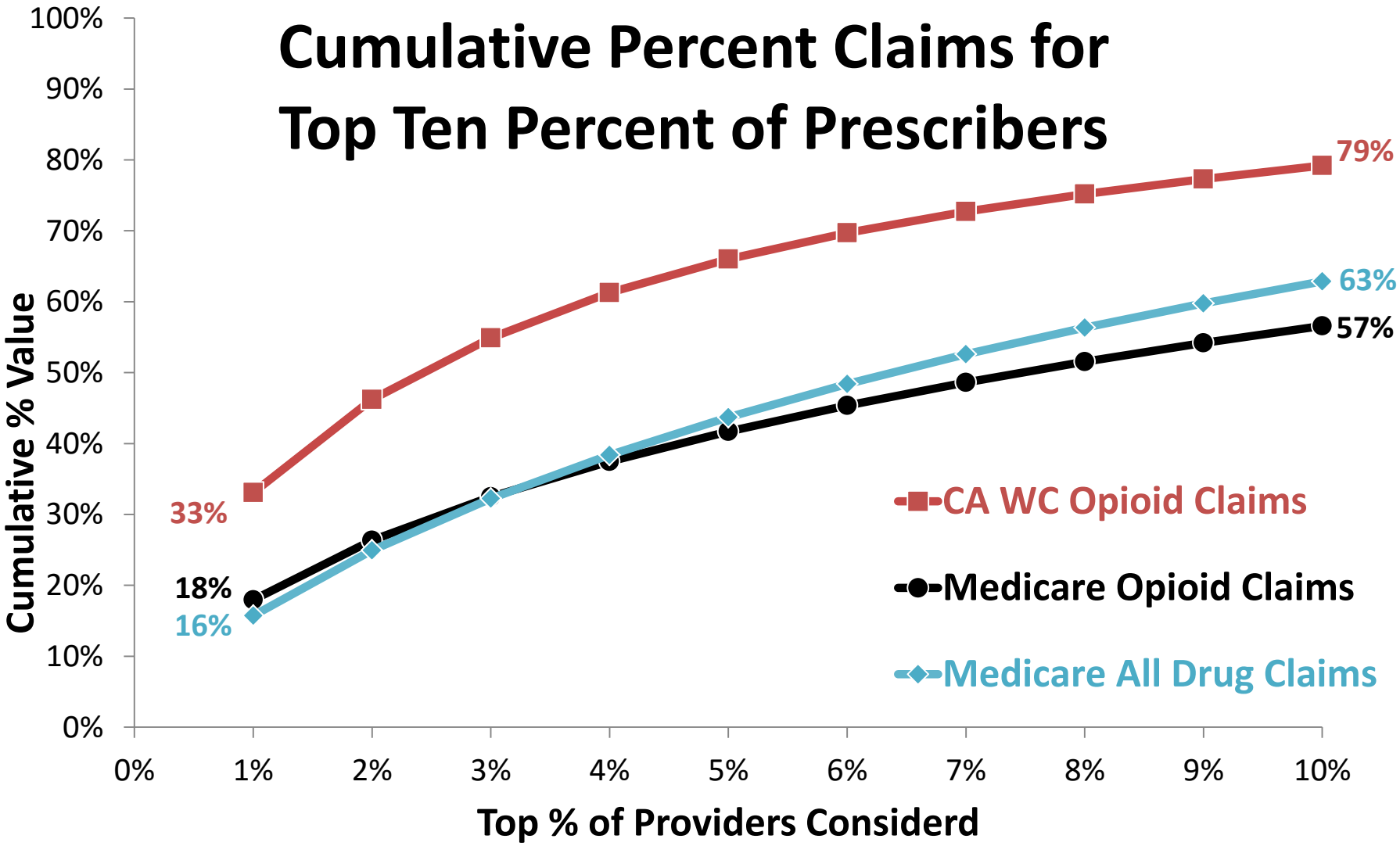
Data Output | Explain | Messages | History

	npi bigint	nppes_provide text	nppes_provider_state text	specialty_desc text	generic_name text	total_claim_count integer	total_drug_cost real
1	1598772485	VERO BCH	FL	Addiction Medicine	CLONAZEPAM	39	480.95
2	1598772485	VERO BCH	FL	Addiction Medicine	DULOXETINE HCL	22	9363.55
3	1598772485	VERO BCH	FL	Addiction Medicine	GABAPENTIN	13	779.24
4	1598772485	VERO BCH	FL	Addiction Medicine	LEVOTHYROXINE SODIUM	12	90.11
5	1598772485	VERO BCH	FL	Addiction Medicine	LORAZEPAM	12	505.9
6	1598772485	VERO BCH	FL	Addiction Medicine	BUPRENORPHINE HCL/NALOXONE HCL	11	2715.99
7	1598772485	VERO BCH	FL	Addiction Medicine	TRAZODONE HCL	15	58.96
8	1578637294	TOWSON	MD	Addiction Medicine	AMLODIPINE BESYLATE	29	184.5
9	1578637294	TOWSON	MD	Addiction Medicine	ATORVASTATIN CALCIUM	28	832
10	1578637294	TOWSON	MD	Addiction Medicine	CARVEDILOL	21	169.09
11	1578637294	TOWSON	MD	Addiction Medicine	CLOPIDOGREL BISULFATE	45	756.99
12	1578637294	TOWSON	MD	Addiction Medicine	HYDROCHLOROTHIAZIDE	30	154.37
13	1578637294	TOWSON	MD	Addiction Medicine	ISOSORBIDE MONONITRATE	19	121.56
14	1578637294	TOWSON	MD	Addiction Medicine	INSULIN GLARGINE,HUM.REC.ANLOG	18	3784.61
15	1578637294	TOWSON	MD	Addiction Medicine	LISINOPRIL	20	194.13
16	1578637294	TOWSON	MD	Addiction Medicine	LISINOPRIL/HYDROCHLOROTHIAZIDE	11	133.58
17	1578637294	TOWSON	MD	Addiction Medicine	PRAVASTATIN SODIUM	20	180.33
18	1578637294	TOWSON	MD	Addiction Medicine	SIMVASTATIN	20	137.29
19	1578637294	TOWSON	MD	Addiction Medicine	TRANDOLAPRIL	11	120.32
20	1811948615	CULLMAN	AL	Addiction Medicine	ARIPIPRAZOLE	56	50496.9
21	1811948615	CULLMAN	AL	Addiction Medicine	ALPRAZOLAM	11	129.89
22	1811948615	CULLMAN	AL	Addiction Medicine	AMANTADINE HCL	11	997.22
23	1811948615	CULLMAN	AL	Addiction Medicine	BENZTROPINE MESYLATE	170	1316.73
24	1811948615	CULLMAN	AL	Addiction Medicine	BUPROPION HCL	20	587.73
25	1811948615	CULLMAN	AL	Addiction Medicine	BUPROPION HCL	21	687.42
26	1811948615	CULLMAN	AL	Addiction Medicine	BUSPIRONE HCL	18	229.28
27	1811948615	CULLMAN	AL	Addiction Medicine	CARBAMAZEPINE	11	125.16
28	1811948615	CULLMAN	AL	Addiction Medicine	CHLORPROMAZINE HCL	15	1632.02

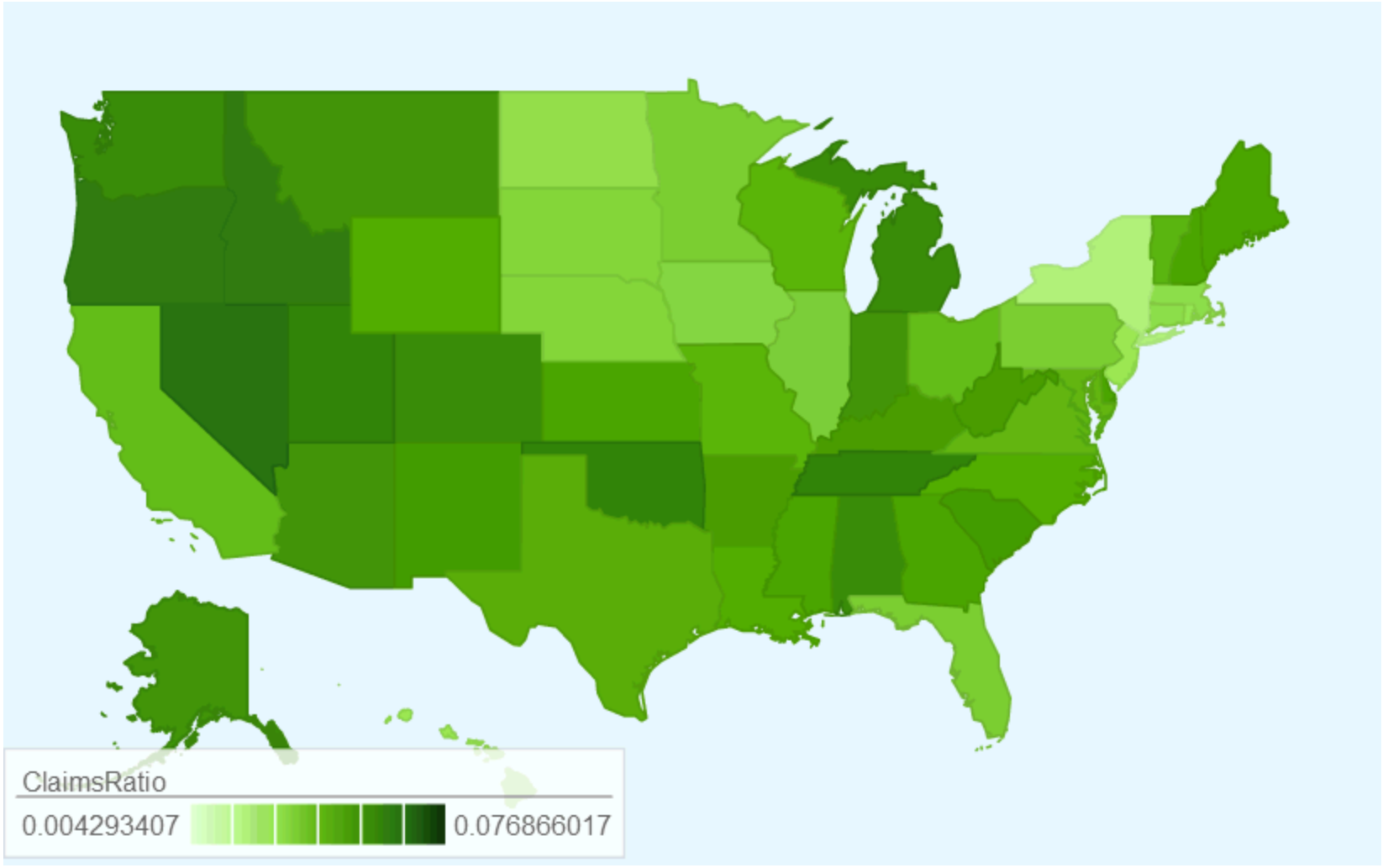
Schedule II Opioids by Specialty



Cumulative Drug Claims



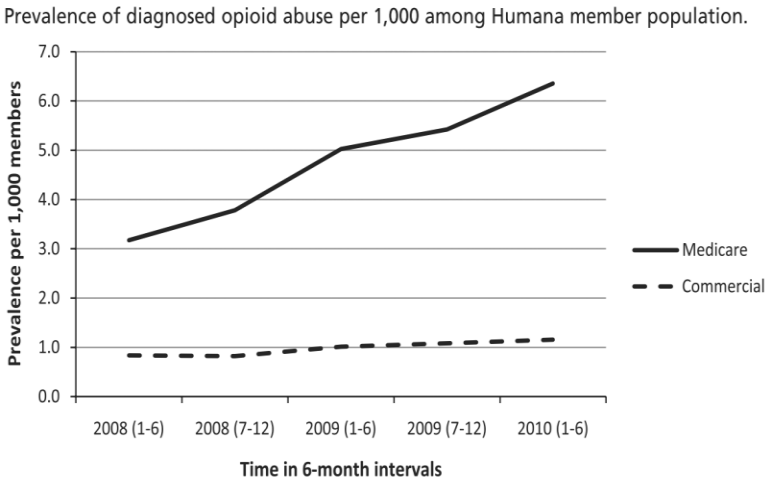
Opioid Regional Variation?



Per state, 56.6% to 57.7% of opioids from 10% of prescribers

Why Medicare Data?

- Newly released data at individual prescriber level[3]
- >55 million Americans >65 or disabled
- Greater and growing rate of opioid use disorder
  - >6 per 1,000 (>330,000)[1]
  - Hospitalizations +10% annually[2]
  - Higher risk for overdose
- Comprehensive coverage
  - No churn in covered population
  - Not missing "uninsured" patients

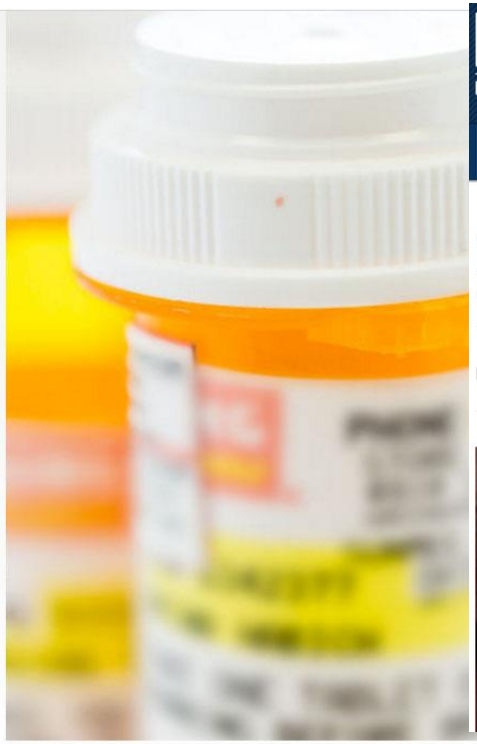


1. Dufour R, Joshi A V., Pasquale MK, et al. The Prevalence of Diagnosed Opioid Abuse in Commercial and Medicare Managed Care Populations. *Pain Pract.* 2014
2. Owens PL, Barrett ML, Weiss AJ, Washington RE, Kronick R. Hospital Inpatient Utilization Related to Opioid Overuse Among Adults, 1993-2012. *HCUP Stat. Briefs* 2014. Available at: https://www.hcup-us.ahrq.gov/reports/statbriefs/sb177-Hospitalizations-for-Opioid-Overuse.jsp
3. Part D Prescriber. *Medicare Provid. Util. Paym. Data* 2015. Available at: http://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/Medicare-Provider-Charge-Data/Part-D-Prescriber.html

Not Just a Few Bad Apples

STAT

Opioid crisis fueled by prescriptions from family doctors and internists



APSTOCK

By ERIC BOODMAN @ericboodman

DECEMBER 14, 2015

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FRANCIE DIEP · DEC 15, 2015

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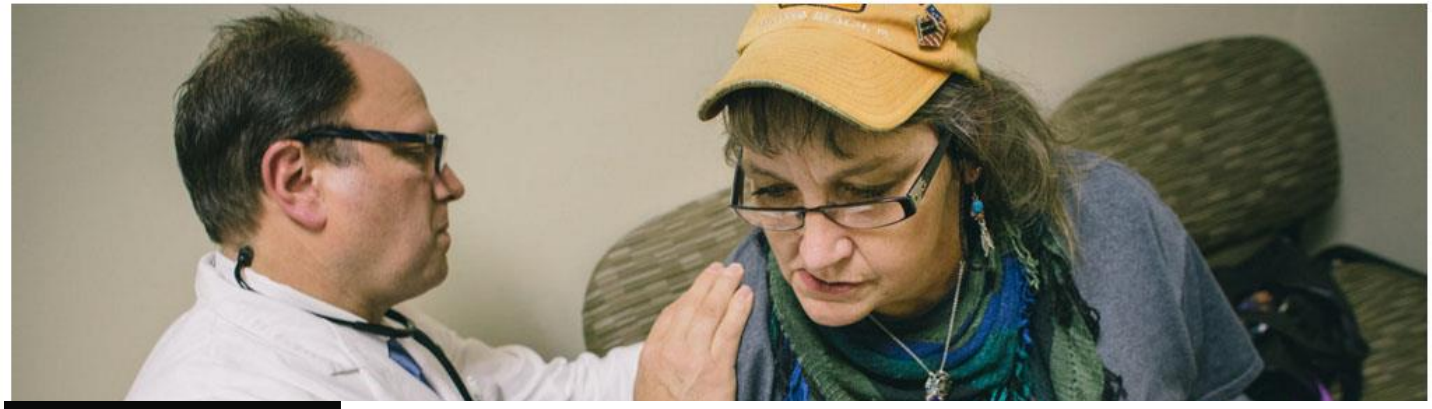
Top Down Guidelines?

The New York Times

Patients in Pain, and a Doctor Who Must Limit Drugs

By JAN HOFFMAN MARCH 16, 2016



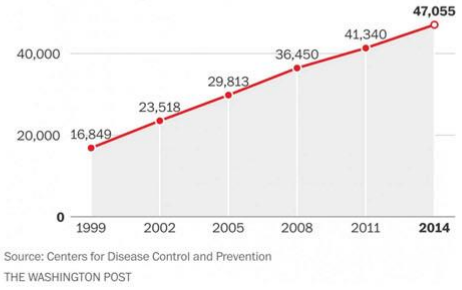
The Washington Post

CDC urge doctors to curb opioid prescriptions: "The risks are addiction and death, and the benefits are unproven."

By Lenny Bernstein December 14, 2015 Follow @LennyMBernstein

Deaths from drug overdoses keep spiking

The nation saw another sharp rise in fatal overdoses last year, with prescription opioids and heroin accounting for much of the increase.



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[Philly]
[Medical Daily]
[Pain Medicine News]
[Stanford Medicine]

Evaluating Clinical Interventions

- Stanford Primary Care Opioid Guidelines
  - For patients on chronic opioids (>3 months) for non-cancer pain
  - Patients should be seen at least every 3 months
  - Referral to Pain Clinic, Physical Therapy, Psychiatry as appropriate
  - Routine urine toxicology screening for drugs of abuse and diversion
  - Single (primary care) opioid prescriber
  - State Prescription Drug Monitoring Database review
  - Encourage gradual attempts to reduce opioid use when appropriate
- Assess Effect of Intervention?
  - Set up study registry and research coordinator?
  - Manual chart review of hundreds of patients?

Priority in Education / Training

JAMA The Journal of the American Medical Association

A PIECE OF MY MIND

- The Patient You Least Want To See
  - Is probably the one who needs you the most
- Opioid prescribing and misuse:
  - Insidiously pervasive problem
  - Lack of structured or consistent guidance
  - As important as prescribing insulin for diabetics
    - Addiction (40M), Heart Dz (27M), Cancer (19M)
  - Many topics compete for educational priority
    - But an inadequately trained medical community will routinely contribute to if not overtly cause opioid misuse

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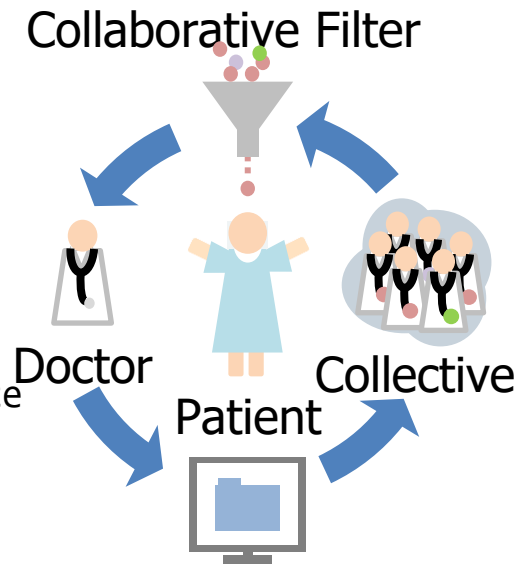

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