



Data Analytics and Opioids for Audit

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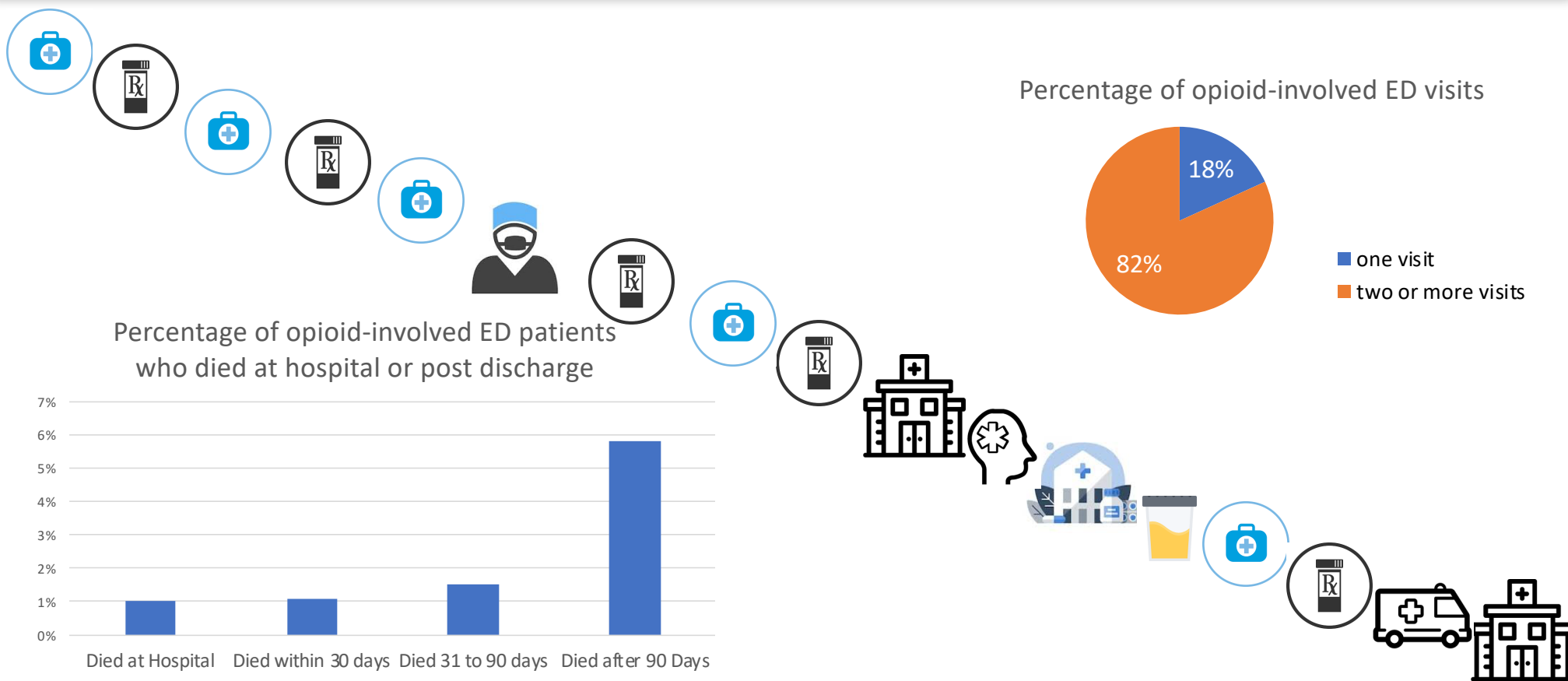
Objective

Use data analytics to develop insights that correctly identify and reduce drug abuse within our population

Key Results:

- 1) Identify and apply data sources that is relatively easy and inexpensive
- 2) Develop and test analytic models that support our objective
- 3) Create visualizations which are easily understood and can be used to support our case

Opioid addiction as told through claims



SOURCE: National Center for Health Statistics, National Hospital Care Survey, 2014.

Data sources

Lots of sources. Some are better and easier to work with than others.
Best to keep them in one place!



"In God we trust.
All others must bring data."

- Dr. W. Edwards Deming

Claims

Facility

Professional

Prescription

Codes

ICD-10-CM

CPT-4

NDC

Taxonomy

Lots more ...

Ancillary

Member

Provider

Guidelines

Eligibility

EHR/EMR

Identification of potential abusers - Claims

CMS 1500



Office visits



Surgical visit



Behavioral Health



Laboratory



Residential treatment



Ambulance

UB-04



Hospital

NCPDP



Prescriptions

Identification of potential abusers - Diagnosis

Abuse and dependence are defined on a scale that measures the time and degree of substance use.

Opioid Abuse T40.0x...T40.6x

Poisoning by, adverse effect of and underdosing of
opium
heroin
other opioids
methadone
other synthetic narcotics
cocaine
unspecified narcotics

Opioid Dependence F11.0x...F11.8x

Opioid related disorders
acute intoxication
harmful use
dependence syndrome
withdrawal state
withdrawal state with delirium
Psychotic disorder
Amnesic syndrome
residual and late-onset psychotic disorder
other mental and behavioural disorders
unspecified mental and behavioural disorder

Other common Dx Codes

G89.00... G89.4 Central pain syndromes
M54.00... M54.9 Various Pain
M60.00... M60.9 Various Pain
M79.00... M79.9 Soft Tissue Pain

Identification of potential abusers - Prescription



Opioids

NDC = 13662
Products = 386
Drug Type = 27

Benzodiazepine

NDC = 7571
Products = 71
Drug Type = 16

Muscle Relaxants

NDC = 5728
Products = 114
Drug Type = 11

Stimulants

NDC = 949
Products = 48
Drug Type = 5

Opioid Deterrents

NDC = 80
Products = 11
Drug Type = 5

Alcohol

No Meaningful NDC

Identification of potential abusers - Procedures

Opioid Abuse

CPT/HCPC Deleted	Description
99284	EMERGENCY DEPARTMENT VISIT HIGH SEVERITY AND LIFE THREATENING
99285	EMERGENCY DEPARTMENT VISIT HIGH/URGENT SEVERITY
80361-80364	OPIATE(S), DRUG AND METABOLITES, EACH PROCEDURE
G0477-G0483	DRUG SCREEN, QUALITATIVE; MULTIPLE DRUG CLASSES BY HIGH-COMPLEXITY TEST METHOD
80300-80304	DRUG SCREEN, QUALITATIVE; SINGLE DRUG CLASS METHOD
80346 - 80347	BENZODIAZEPINES
80324 - 80326	AMPHETAMINE OR METHAMPHETAMINE
82542	COLUMN CHROMATOGRAPHY/MASS SPECTROMETRY NONDRUG ANALYTE
80353, 80361, 86160 - 86162	COCAINE OR METABOLITE
80320-80322	ALCOHOL

Opioid Dependence

CPT/HCPC Deleted	Description
H0020	ALCOHOL AND/OR DRUG SERVICES; METHADONE ADMINISTRATION AND/OR SERVICE
H0015	ALCOHOL AND/OR DRUG SERVICES; INTENSIVE OUTPATIENT
80299	QUANTITATION OF THERAPEUTIC DRUG, NOT OTHERWISE SPECIFIED
83858	METHADONE
90853	GROUP PSYCHOTHERAPY
H0011	ALCOHOL AND/OR DRUG SERVICES; ACUTE DETOXIFICATION

Dependence encompasses both a mental and physical reliance on a given substance.

Scheme - Aberrant Pattern



Aberrant Patterns

- Prescribing or filling too much drug or service per patient

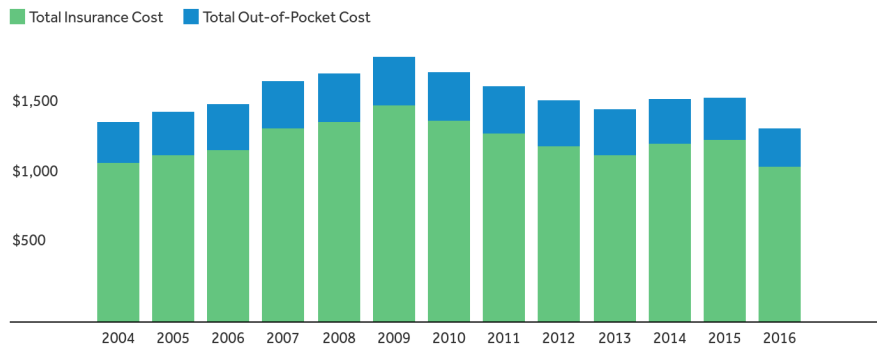
A dose of 50 MME or more per day **doubles** the risk of opioid overdose death, compared to 20 MME or less per day. At 90 MME or more, the risk increases **10 times**.

In 2015, the amount of opioids prescribed was enough for every American to be medicated **around the clock for 3 weeks**. *(640 MME per person, which equals 5 mg of hydrocodone every 4 hours)*

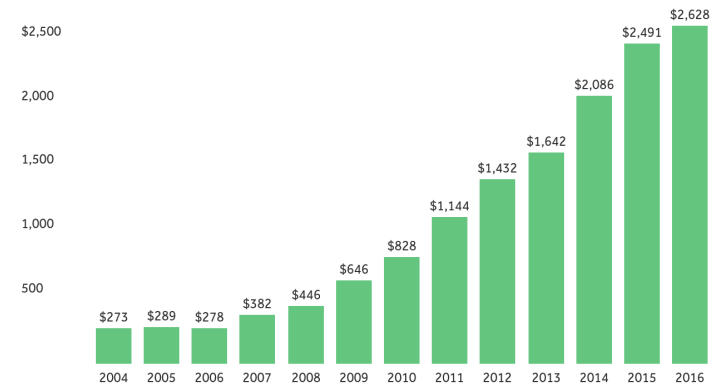
Even at low doses, taking an opioid for more than 3 months increases the risk of dependence by **15 times**

Opioid Spending Trends

Spending on opioids has nominally decreased



Spending on opioid treatment has substantially increased



Year	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Days Supply	13.3	13.9	14.5	15.0	15.5	16.0	16.4	16.9	17.2	17.7
Dose	59.7	59.1	58.7	58.1	58.0	53.9	51.8	50.2	48.9	48.1

Opioid Treatment Trends

Taxonomy codes for opioid related services

Substance Abuse Rehabilitation Facility - **324500000X**

Substance Abuse Treatment, Children - **3245S0500X**

Laboratories

Clinical Medical Laboratory - **291U00000X**

Behavioral Health & Social Service Providers Counselor - **101Y00000X**

Addiction (Substance Use Disorder) - **101YA0400X**

Mental Health - **101YM0800X**

Ambulatory Health Care Facilities

Mental Health (Community Mental Health Center) - **261QM0801X**

Methadone - **261QM2800X**

Pharmacy - **333600000X**

Clinic Pharmacy - **3336C0002X**

Community/Retail Pharmacy - **3336C0003X**

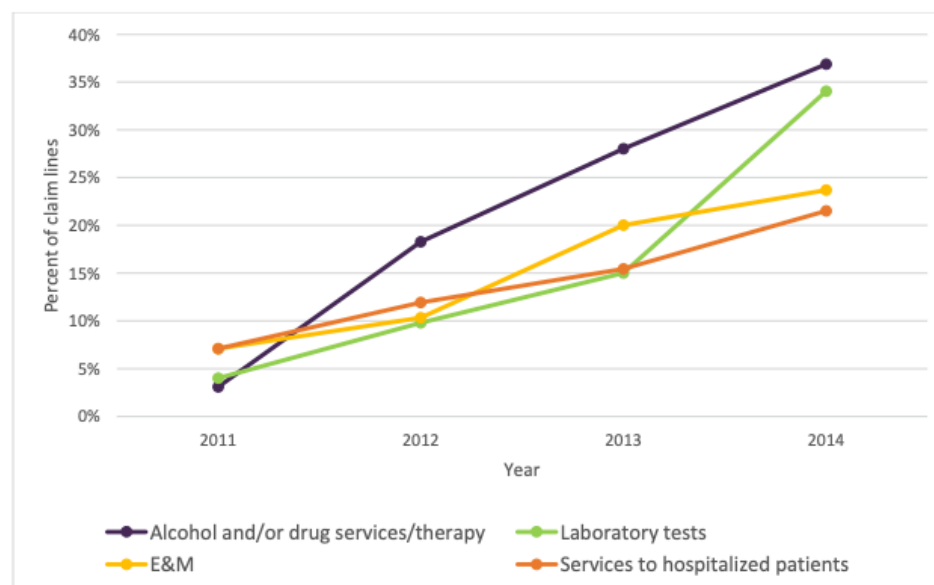
Emergency Medical Service Providers

Emergency Medical Technician, Basic - **146N00000X**

Emergency Medical Technician, Intermediate - **146M00000X**

Emergency Medical Technician, Paramedic - **146L00000X**

Opioid services utilization trend 2011-2014



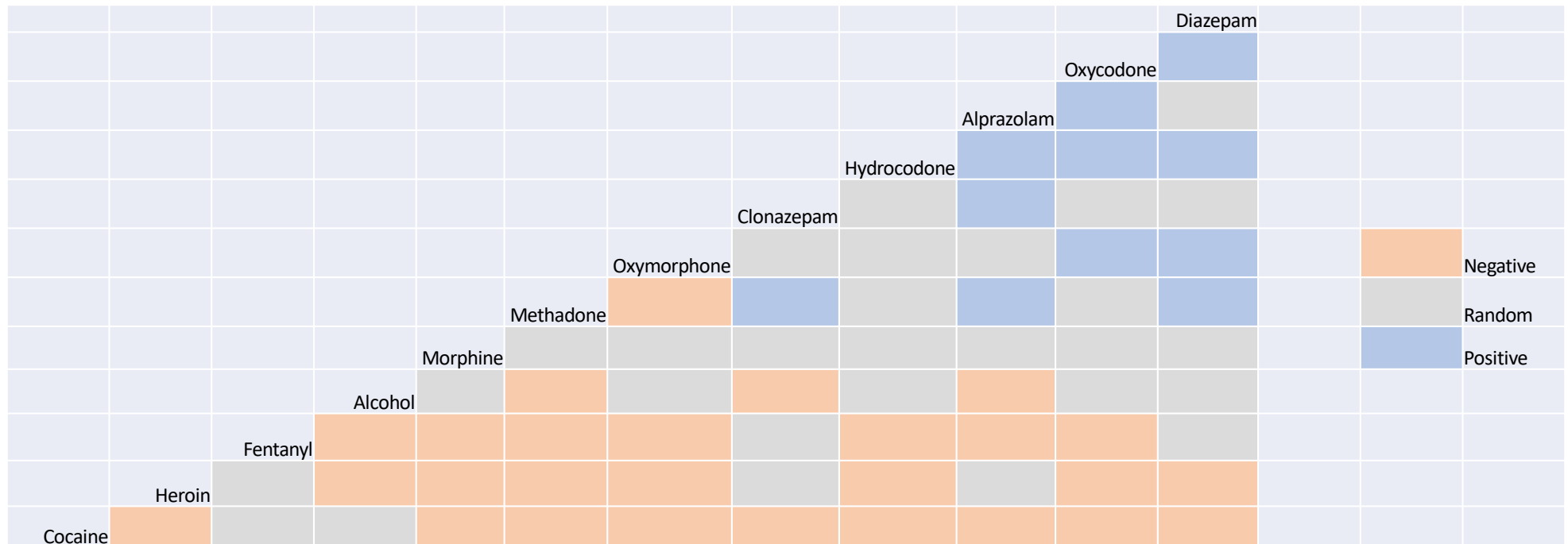
Lab testing costs 2015 vs 2019

170% Increase in the price of testing!

CPT/HCPC Deleted	CPT/HCPC Replacement	Description	Price 2015	Price 2019
83925	80361, 80362, 80363, 80364	OPIATE(S), DRUG AND METABOLITES, EACH PROCEDURE	\$120	\$120 per claim (usually 2 per claim)
G0431	G0477 through G0483	DRUG SCREEN, QUALITATIVE; MULTIPLE DRUG CLASSES BY HIGH-COMPLEXITY TEST METHOD	\$100	\$180 per claim (1-2 per claim)
80101	80300, 80301, 80302, 80303, 80304	DRUG SCREEN, QUALITATIVE; SINGLE DRUG CLASS METHOD	\$26	\$100 per claim (usually 2 per claim)
80154	80346, 80347	BENZODIAZEPINES	\$14	\$25 per claim (usually 1 per claim)
82145	80324, 80325, 80326	AMPHETAMINE OR METHAMPHETAMINE	\$25	\$10 per claim (usually 1 per claim)
82520	80353, 80361, 86160, 86161, 86162	COCAINE OR METABOLITE	\$11	\$100 per claim (usually 2 per claim)
82055	80320, 80321, 80322	ALCOHOL	\$20	\$20 per claim (usually 2 per claim)
Total			\$316	\$555

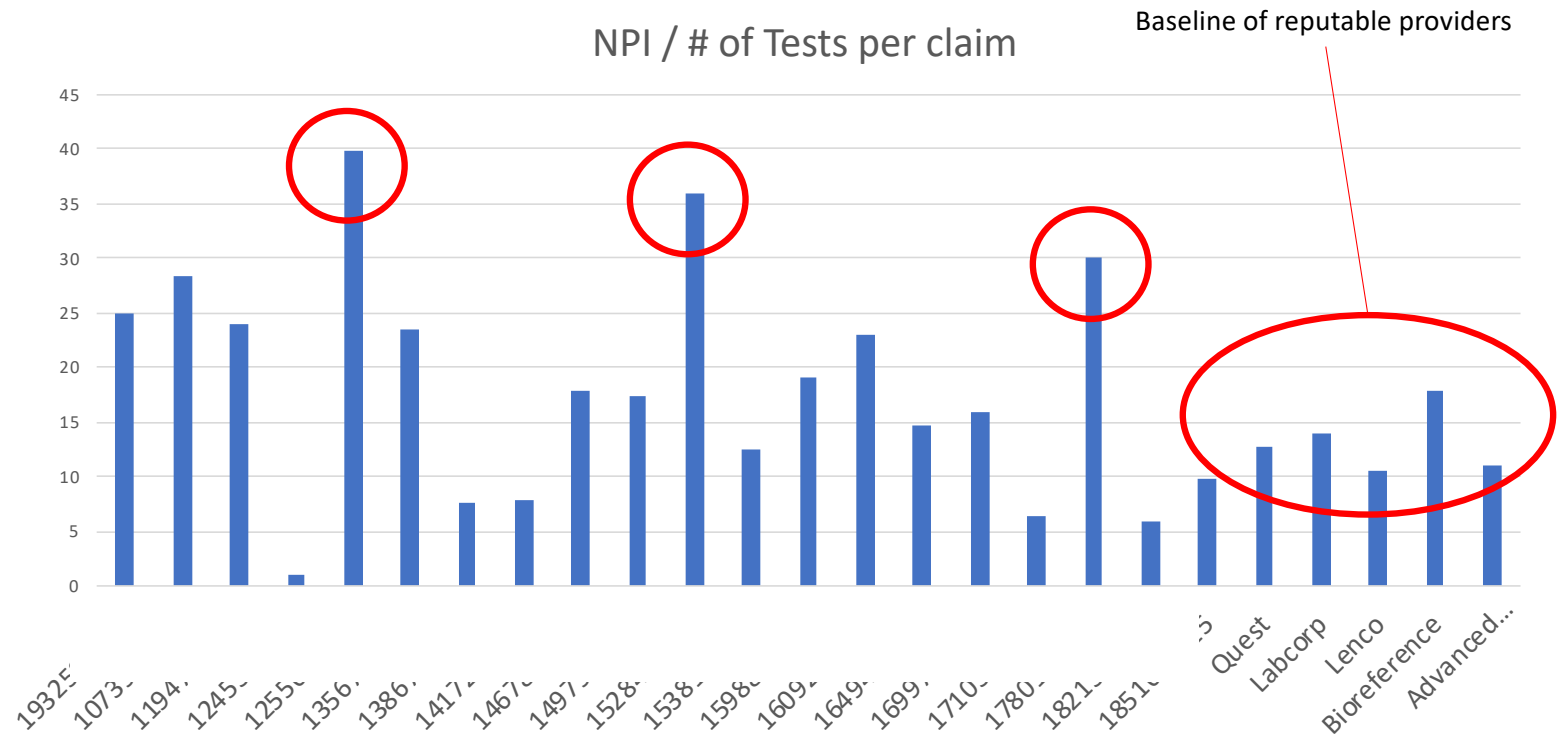
Co-occurrence of substance abuse utilization

The cooccurrence of pairwise drugs for the top drugs used. Blue indicates those two drugs are frequently found together in an overdose, yellow indicates those two drugs tend not to be found together in an overdose.



Which providers is driving testing?

1. Query claims for opioid testing CPTs
2. Be sure to capture NPI, not just EIN
3. Pivot so that we see # of CPTs per claim



Scheme – Drug Diversion & Socialization



Drug Diversion & Socialization

- Diversion of substances to friends, family, and associates

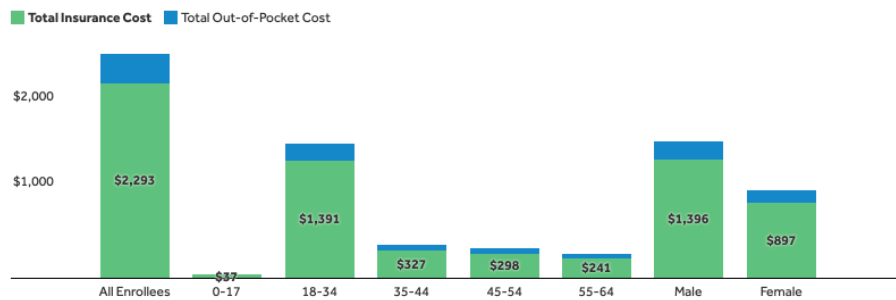
- A member obtains prescription drugs and gives or sells them to someone else.
- A member falsely reports loss of drugs to obtain drugs for resale.

Who are we looking for?

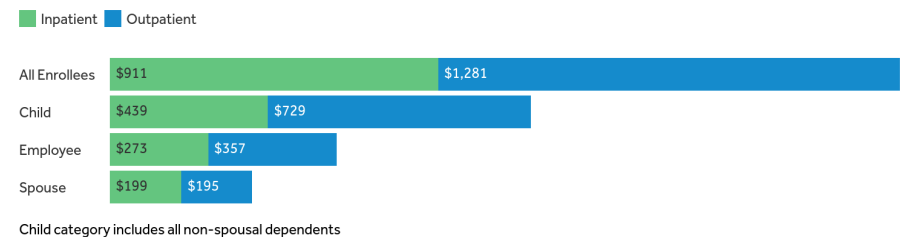
The bulk of spending by people with large employer coverage on inpatient and outpatient treatment for opioid addiction and overdose was for employees'

1. children (53%)
2. employees (29%)
3. spouses (18%)

Total amounts paid for opioid addiction and overdose diagnoses for enrollees in large employer plans, in millions, by age and sex, 2016



Total amounts paid for opioid addiction and overdose treatment diagnoses for enrollees in large employer plans, in millions, by enrollment status, 2016

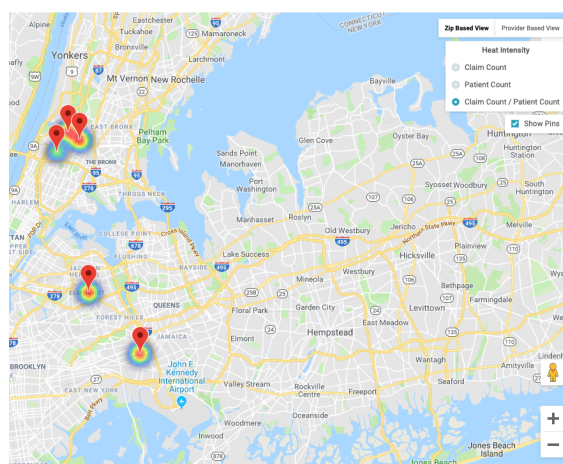


Birds of a feather...

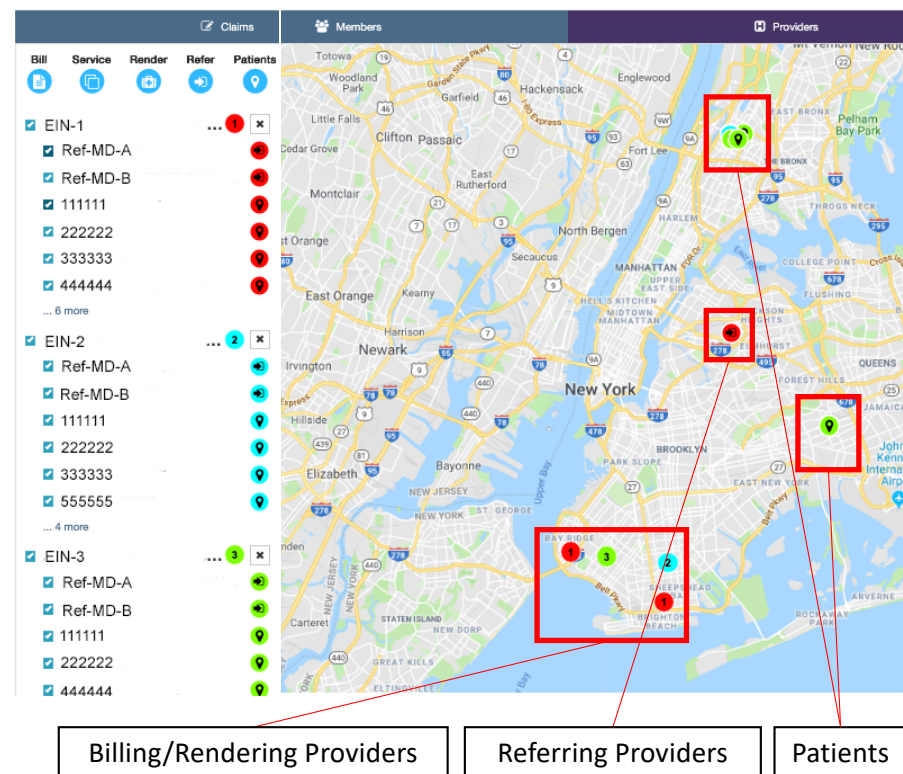
Develop a story

- 1) Target Dx codes
 - Abuse
 - Other drugs
- 2) Target members with fill dates 30 days before Dx poisoning
 - Maintain fill dates and DoS
 - Review overall age ranges
- 3) Identify Social Components
 - Referring
 - Dispenser
 - Social groups

Heat Maps

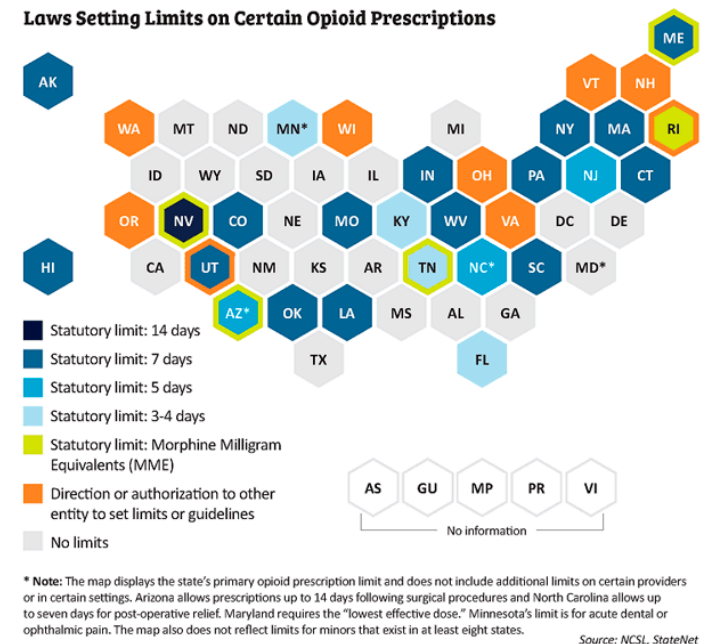


Relationship Maps



What's on the horizon?

- 1) How will SIU contribute in the ongoing lawsuits against opioid manufacturers?
- 2) New legislation in Colorado regarding the switch from opioids to cannabinoids?
- 3) Laws setting limits on certain opioids



Opportunities for SIU

1. Develop strategies for provider engagement with a trends based approach
2. Opportunities to shape medical policy
3. Work with provider relations

Additional Resources and Information

- CMS: <http://www.cms.hhs.gov/>
- HHS/OIG: <http://oig.hhs.gov>
- CMS Prescription Drug Benefit Manual: <https://www.cms.gov/Medicare/Prescription-Drug-Coverage/PrescriptionDrugCovContra/Downloads/Chapter9.pdf>
- CMS Medicaid Integrity: <http://www.cms.gov/MedicaidIntegrityProgram/>
- DEA Drug Diversion: <http://www.deadiversion.usdoj.gov>

Questions and contact information

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