

Opioid Abuse in Reno, NV



2017 Problem-Oriented Policing Conference
Houston, Texas

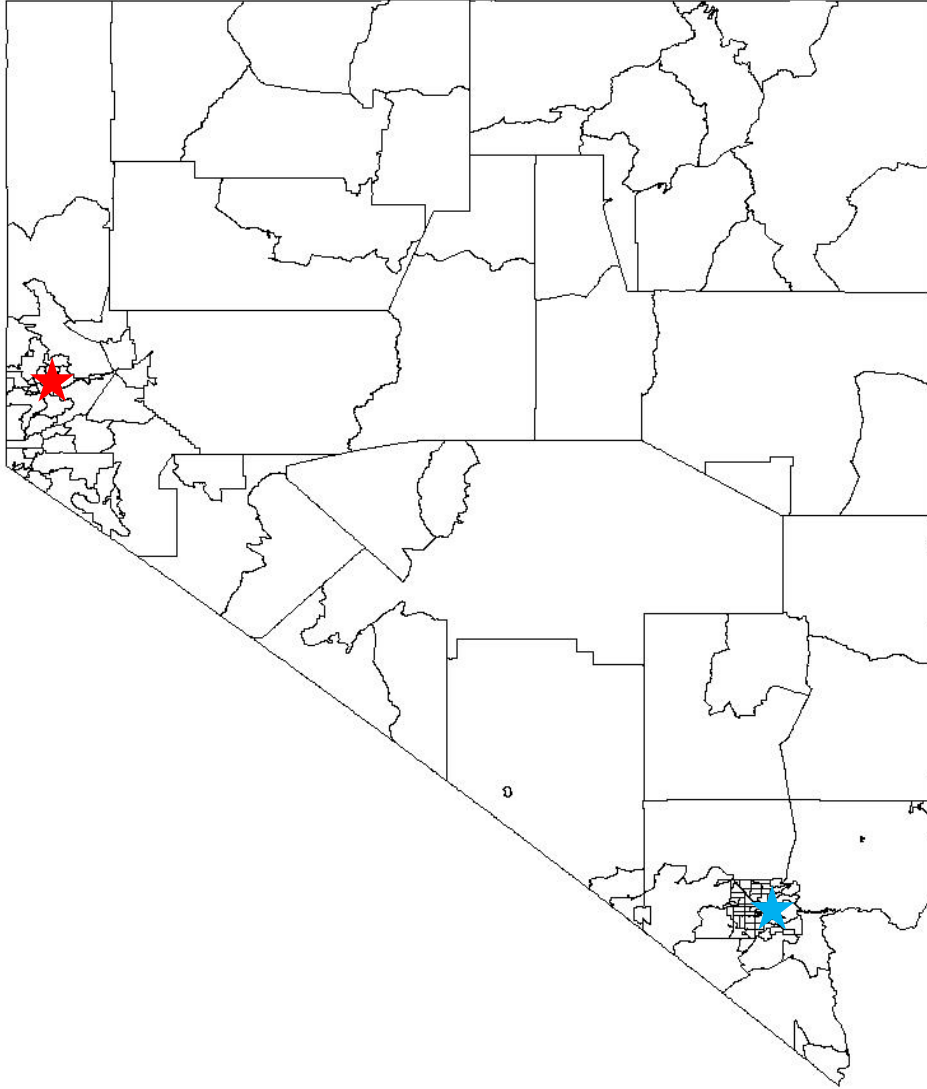
Reno Police Department
Nevada State Board of Pharmacy
University of Nevada, Reno

Introduction



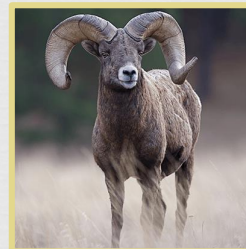
- ❧ Harold Rogers PDMP Research & Practitioner Partnership (FY2015)
- ❧ Partners: Reno Police Department, University of Nevada and Nevada Board of Pharmacy
- ❧ Primary data source: Nevada Prescription Monitoring Program (PMP)
 - ❧ Aggregate PMP data collected for 2011-2015
 - ❧ Patient names de-identified completely
 - ❧ Patient address de-identified to the smallest address block containing at least 100 addresses

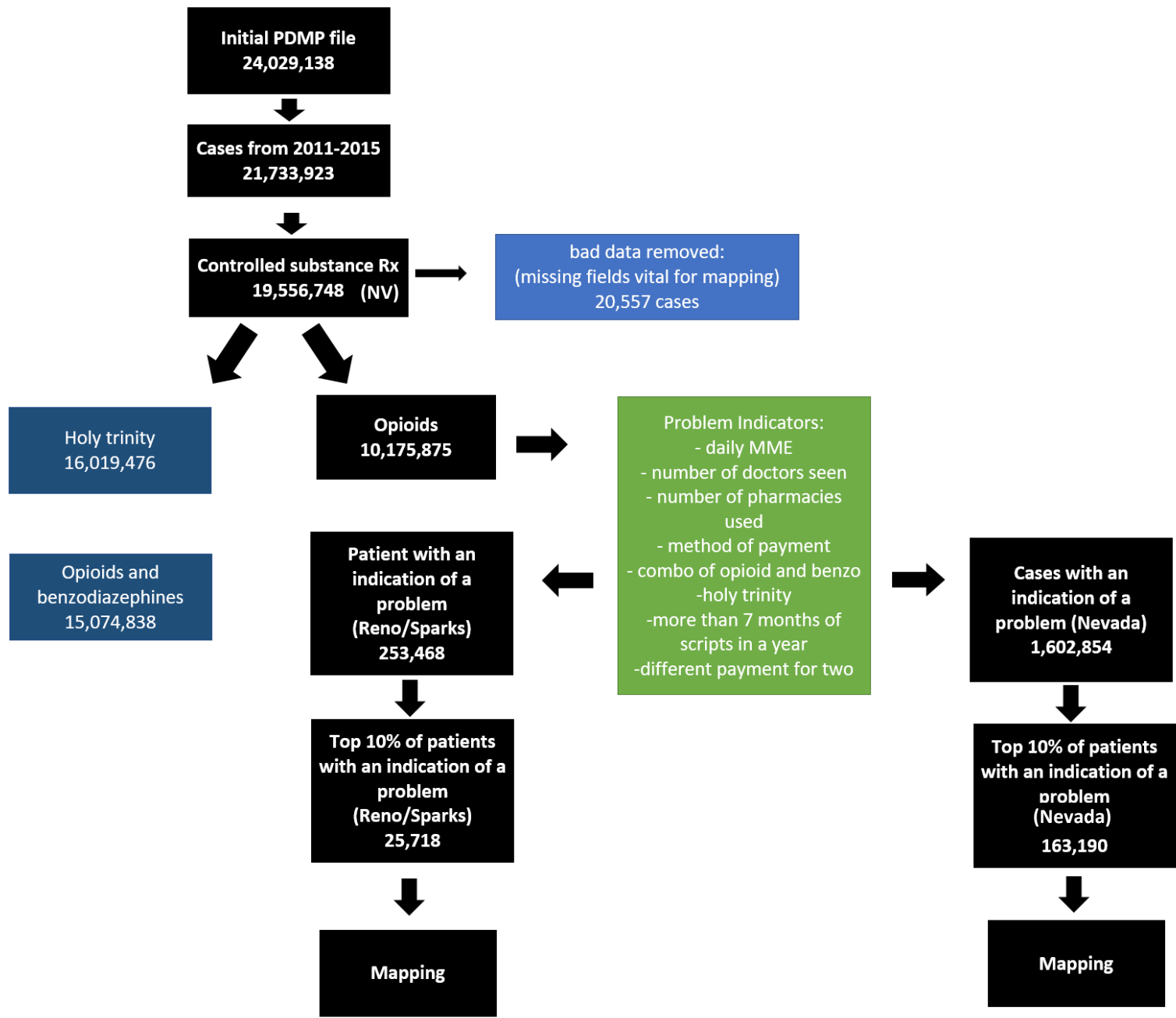
Nevada Population: 2.8 m (California pop. 38.4 m)



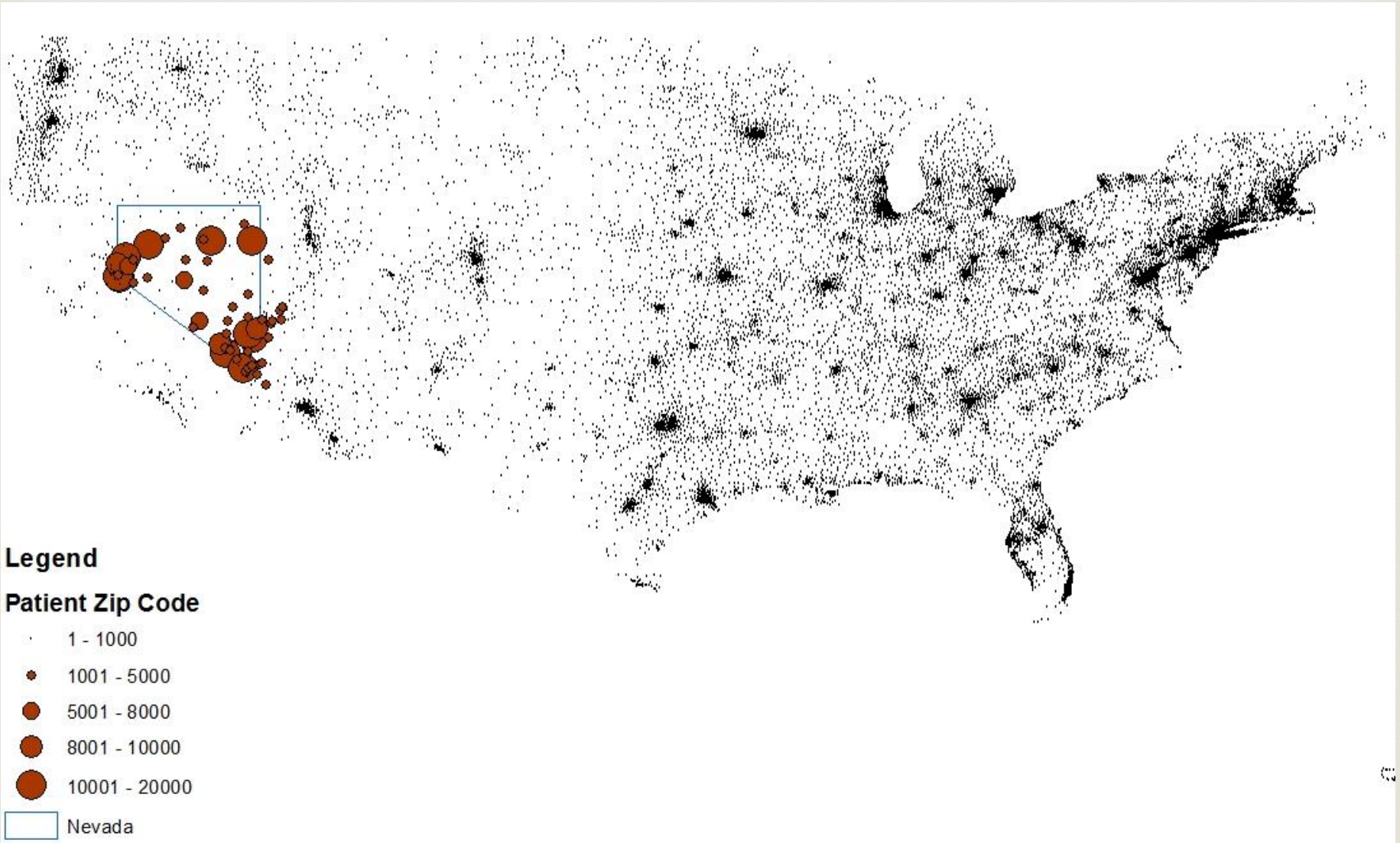
★ - **Reno/Sparks**
Population (2011): 319,368
Population (2013): 326,576
2.3% ↑

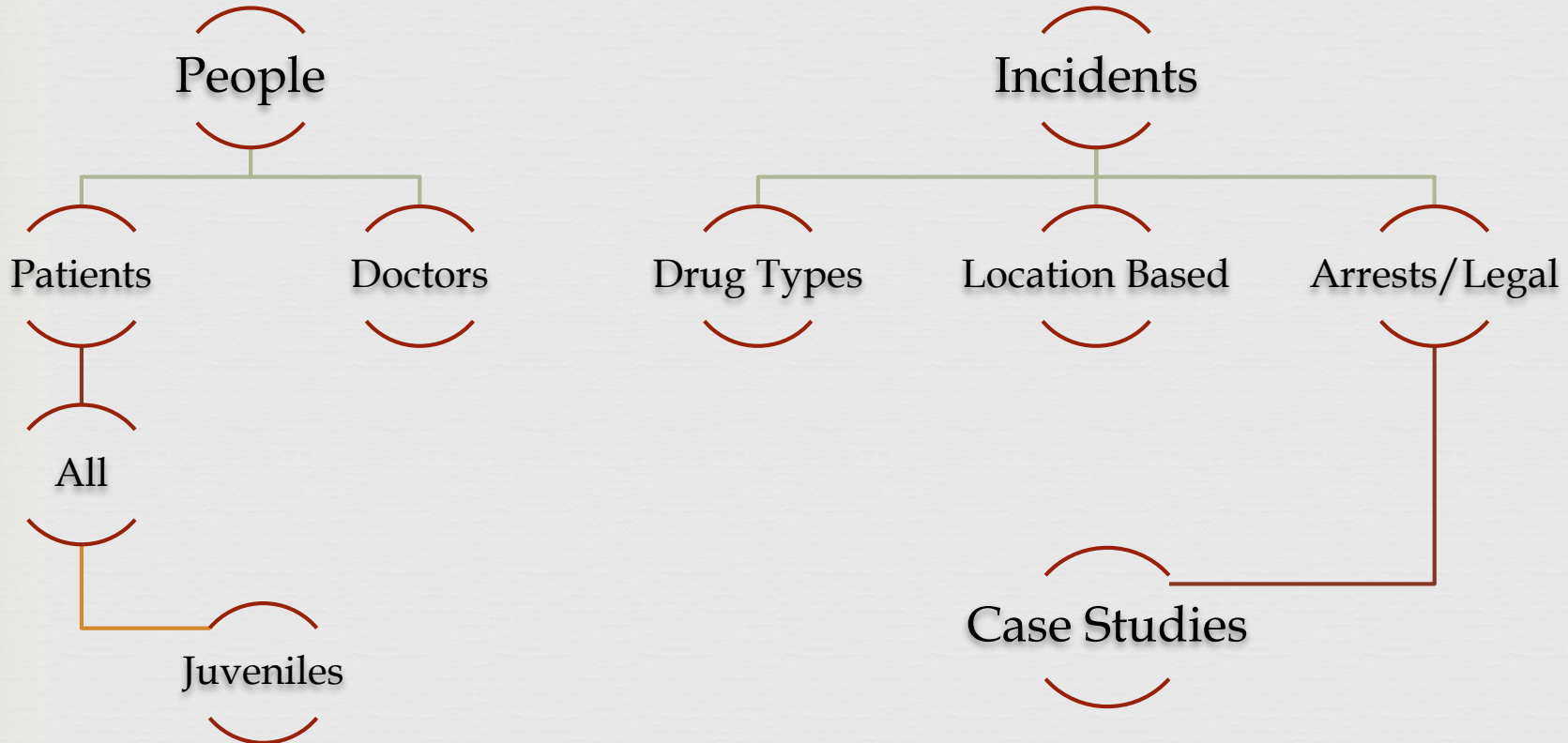
★ - **Las Vegas/Henderson**
Population (2011): 848,064
Population (2013): 874,299
3.1% ↑



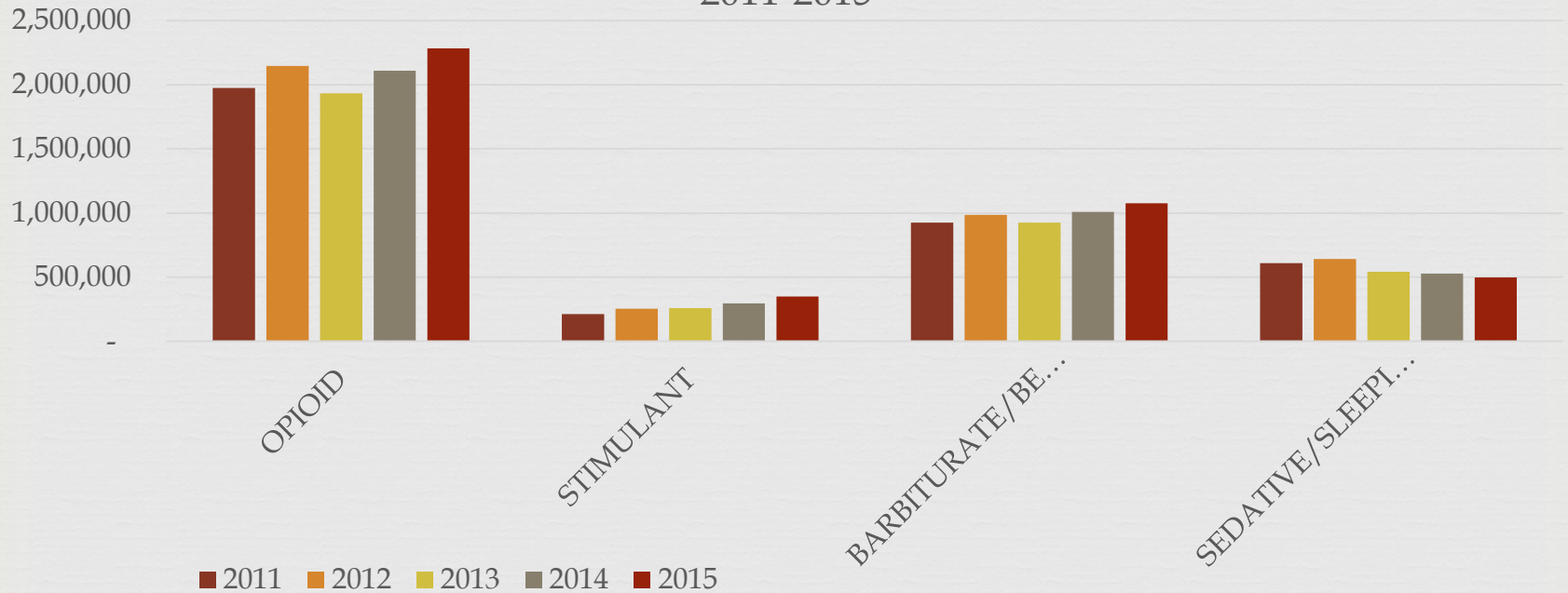


Location of Patients Across the United States (2011-2015)



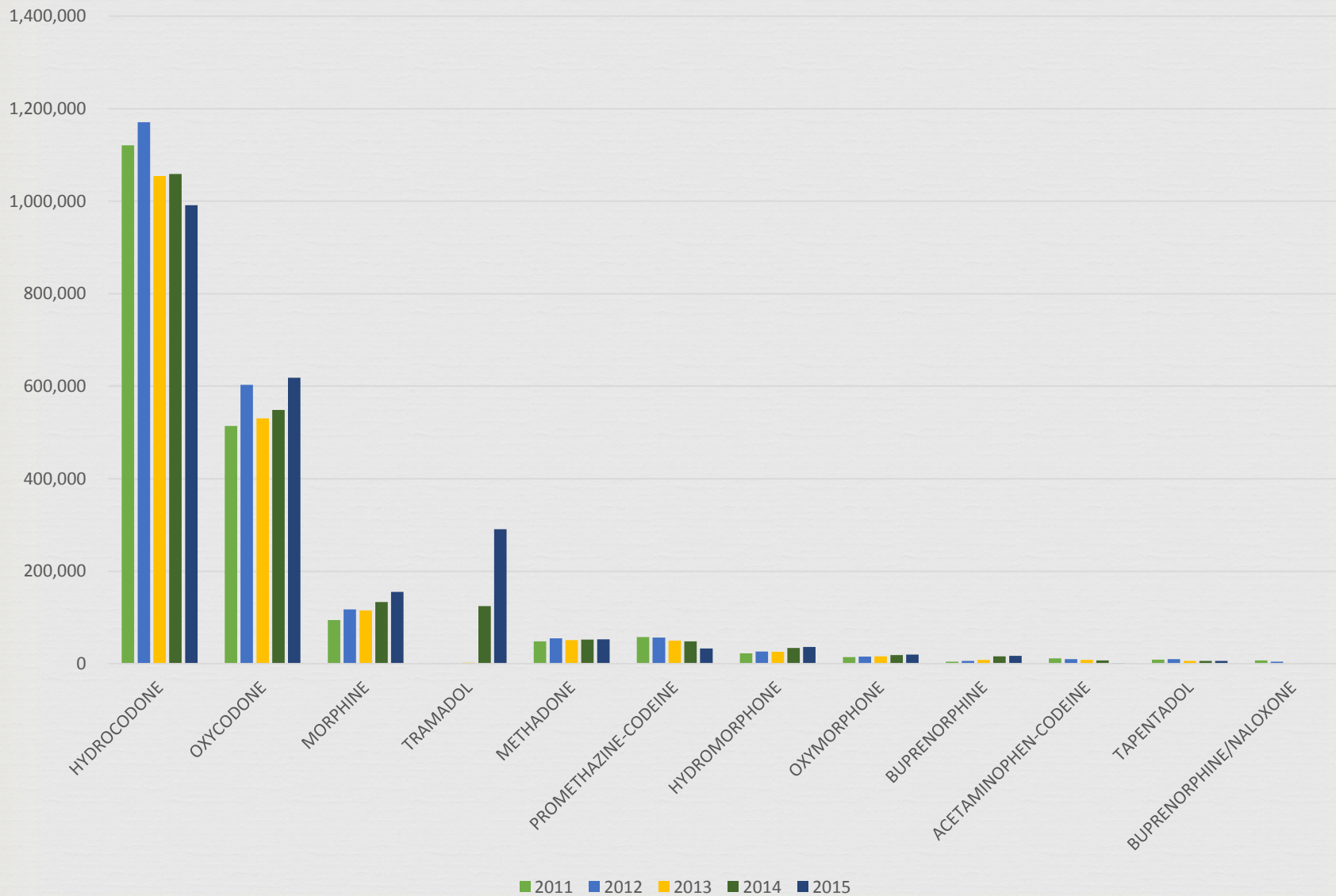


Drug Type Frequency 2011-2015

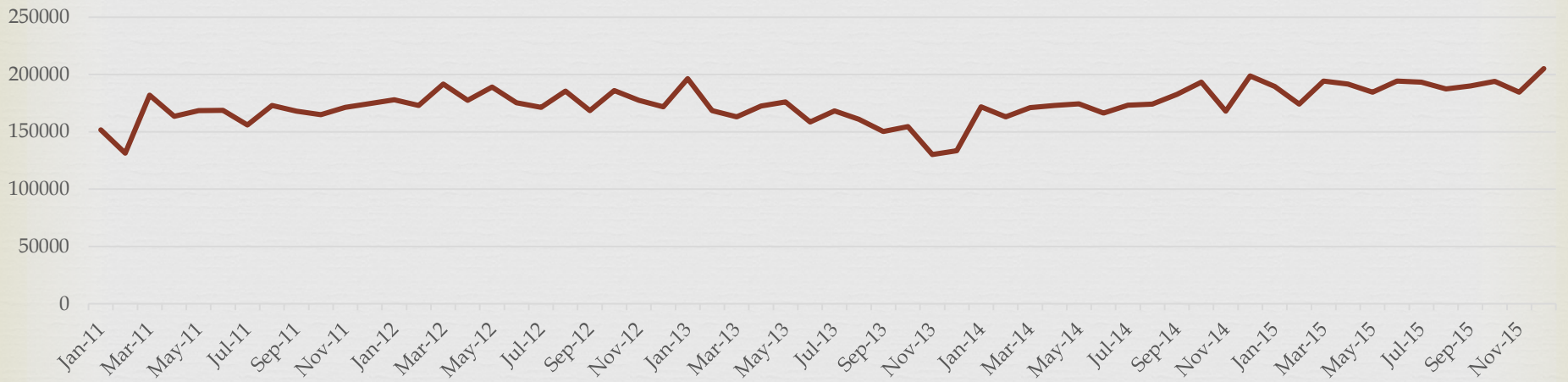


	2011	2012	2013	2014	2015	Total
OPIOID	53%	53%	53%	54%	54%	53%
STIMULANT	6%	6%	7%	8%	8%	7%
BARBITURATE/BENZODIAZEPINE	25%	24%	25%	26%	26%	25%
SEDATIVE/SLEEPING PILL	16%	16%	15%	13%	12%	14%
TOTAL	19%	21%	19%	20%	22%	100%

Opioid Drug Distribution 2011-2015



Number of Opioid Scripts - Nevada 2011-2015



(CDC GUIDELINE FOR PRESCRIBING OPIOIDS FOR CHRONIC PAIN, 2016)



“When opioids are started, clinicians should prescribe the lowest effective dosage. Clinicians should use caution when prescribing opioids at any dosage, should carefully reassess evidence of individual benefits and risks when considering increasing dosage to ≥ 50 morphine milligram equivalents (MME)/day, and should avoid increasing dosage to ≥ 90 MME/day or carefully justify a decision to titrate dosage to ≥ 90 MME/day. “

	0-500 daily MME	501-1000 daily MME	1001-1500 daily MME	1501-2000 daily MME	More than 2000 daily MME	Total
BELLADONNA & OPIUM	4	0	0	0	0	4
LEVORPHANOL	96	0	0	0	0	96
OPIUM TINCTURE	657	0	0	0	0	657
PENTAZOCINE	1,165	0	0	0	0	1,165
FENTANYL	7,587	0	0	0	0	7,587
MEPERIDINE	10,840	0	0	0	0	10,840
PROMETHAZINE-CODEINE	245,750	0	0	0	0	245,750
OPIUM	292	1	0	0	0	293
CODEINE SULFATE	1,878	1	0	0	0	1,879
ACETAMINOPHEN/HYDROCODONE	124,885	1	0	0	0	124,886
TRAMADOL	418,653	1	0	0	0	418,654
TAPENTADOL	37,423	25	0	0	0	37,448
ACETAMINOPHEN-CODEINE	39,318	0	2	0	0	39,320
BUTORPHANAL	8,858	8	3	0	0	8,869
ACETAMINOPHEN/OXYCODONE	181,732	408	12	3	0	182,155
BUPRENORPHINE	51,590	117	5	4	1	51,717
BUPRENORPHINE/NALOXONE	12,405	8	1	0	3	12,417
HYDROCODON	5,270,642	70	29	7	3	5,270,751
OXYMORPHONE	84,448	363	97	1	4	84,913
OXYCODONE	2,483,370	13,606	521	109	61	2,497,667
OXYCONTIN	131,492	2,325	572	103	68	134,560
METHADONE	255,225	4,044	381	63	83	259,796
MORPHINE	605,851	9,676	498	142	120	616,287
HYDROMORPHONE	144,823	698	80	51	187	145,839
Total	10,118,984	31,352	2,201	483	530	10,153,550

Coefficient Scores



High Risk Indicator	Coefficient*
Patient has seen 5 or more doctors	0.8
Patient has filled scripts at 5 or more pharmacies	0.8
Patient is receiving more than 90 daily MME's	0.5
Patient has received an opioid, benzo, and SOMA	0.9
Patient has received an opioid and a benzo	0.7
Patient has paid cash for a script	0.5
Patient has paid for the same drug with both insurance and cash	0.8
Patient receiving over 7 months of scripts over the course of one year	0.6

* As determined by the Nevada Pharmacy Board

Coefficients

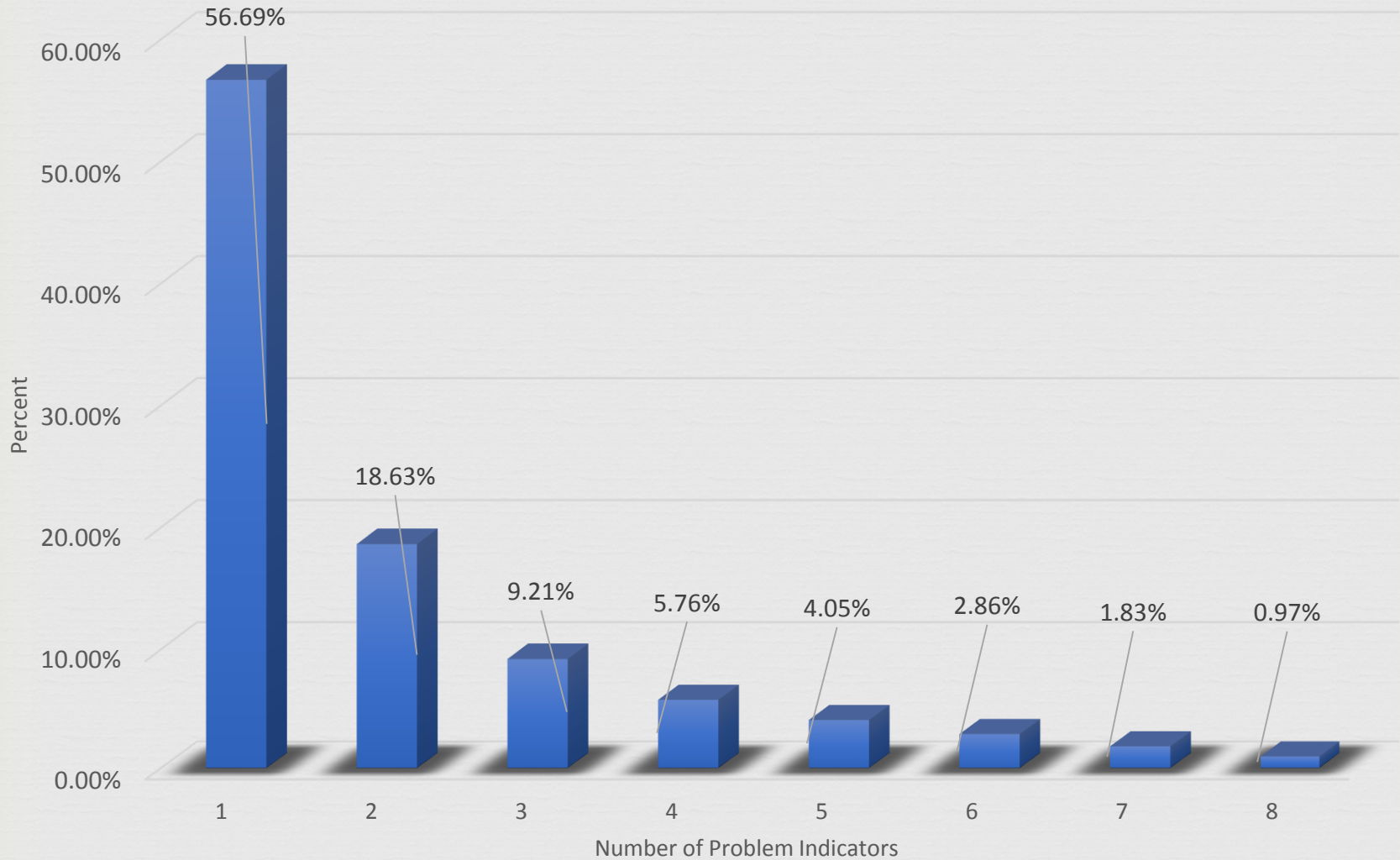


- ☞ The sum of these problem indicators is 5.6.
- ☞ The top 10% of patients, according to our coefficients, had an indication of 1.9 or higher.
- ☞ This was true for both the Reno and the Nevada datasets.

Total Coefficient Frequency 2011-2015

	Number of People	Percent
Patient has seen 5 or more doctors	182,214	11.4%
Patient has filled scripts at 5 or more pharmacies	68,129	4.3%
Patient is receiving more than 90 daily MME's	207,844	13.0%
Patient has received an opioid, benzo, and SOMA	53,202	3.3%
Patient has received an opioid and a benzo	267,571	16.7%
Patient has paid cash for a script	450,786	28.1%
Patient has paid for the same drug with both insurance and cash	127,664	8.0%
Patient receiving over 7 months of scripts over the course of one year	127,507	8.0%
Total Patients	1,602,854	100.0%

Percent of Patients with Risk Indicator 2011-2015

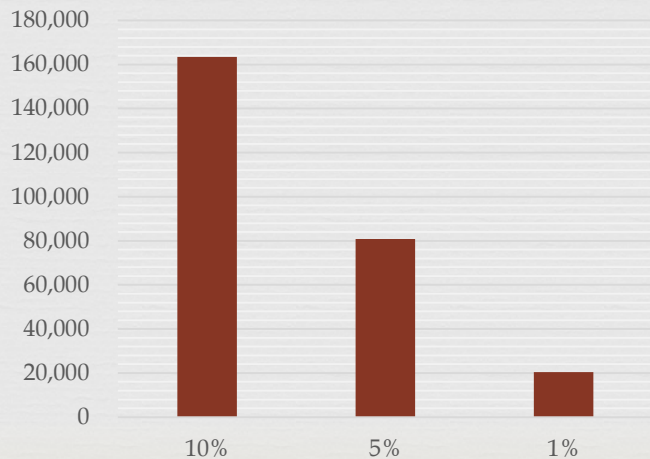


Top Percentages of Patients with Risk Indicators

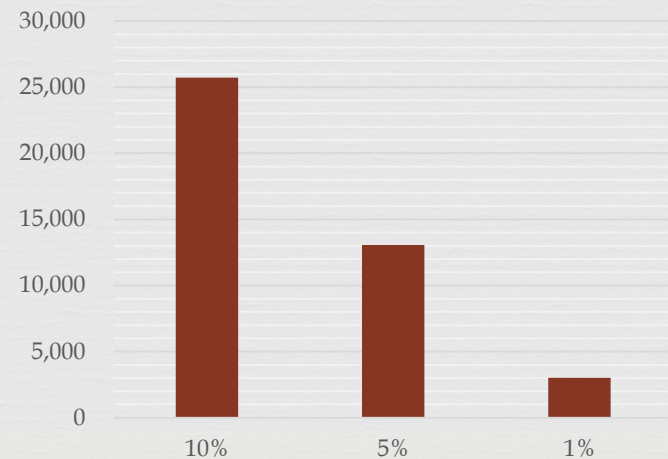
	10%	5%	1%	Total*
Nevada	(1.9+) 163,454	(2.9+) 80,828	(4.7+) 20,471	16,022,854
Reno	(1.9+) 25,718	(2.8+) 13,056	(4.7+) 3,018	253,468

*The total number of patients is any patient in the database, not just those with a problem indication.

Nevada



Reno

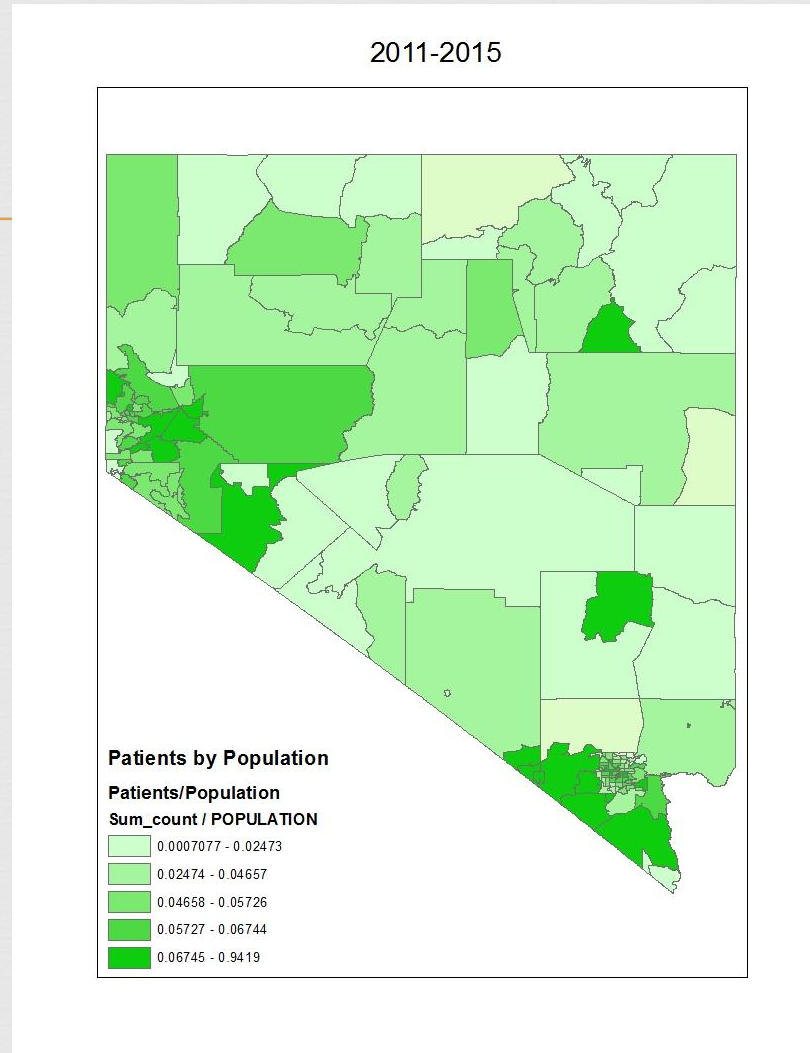


Reno Police Department

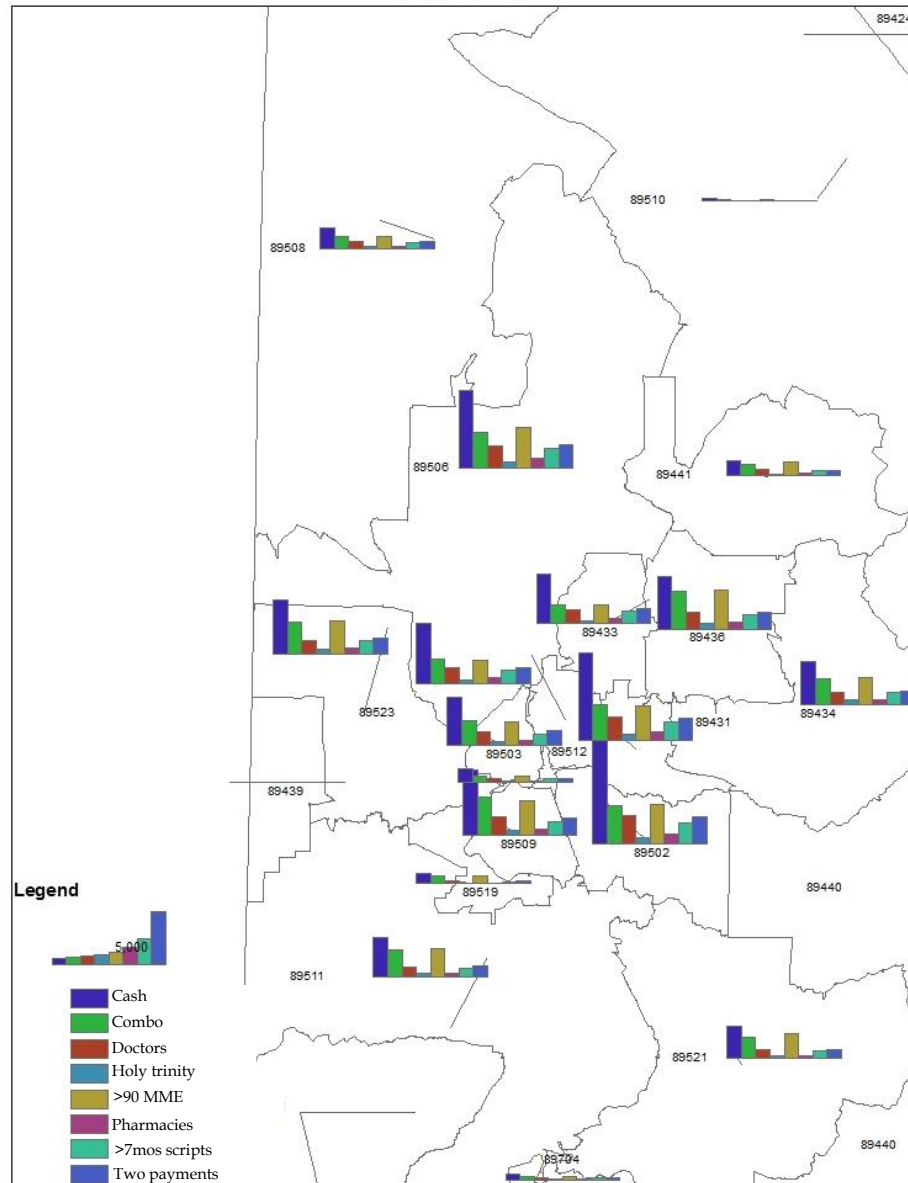
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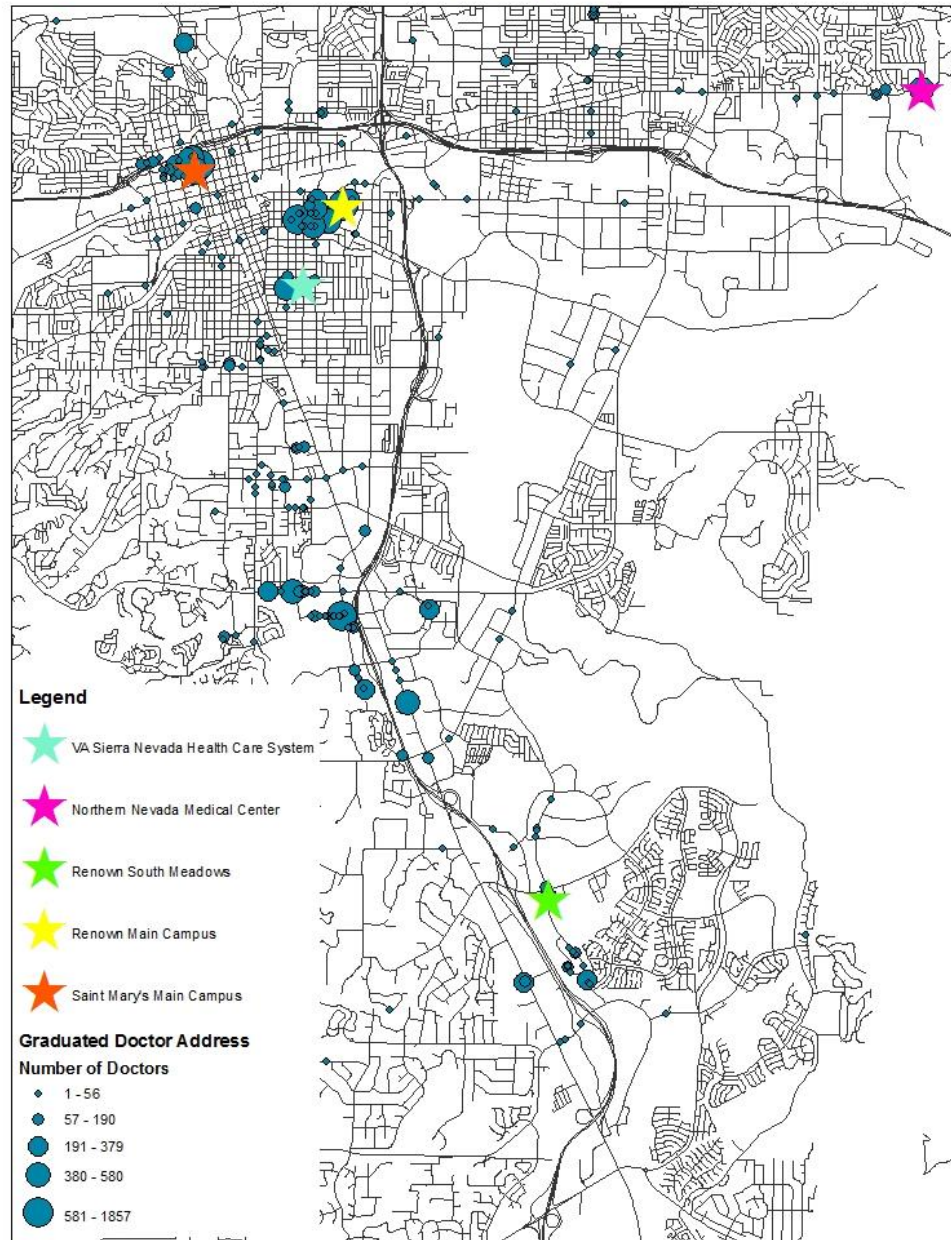
Top 10% of Problem Patients / Population (coefficient > 1.9)



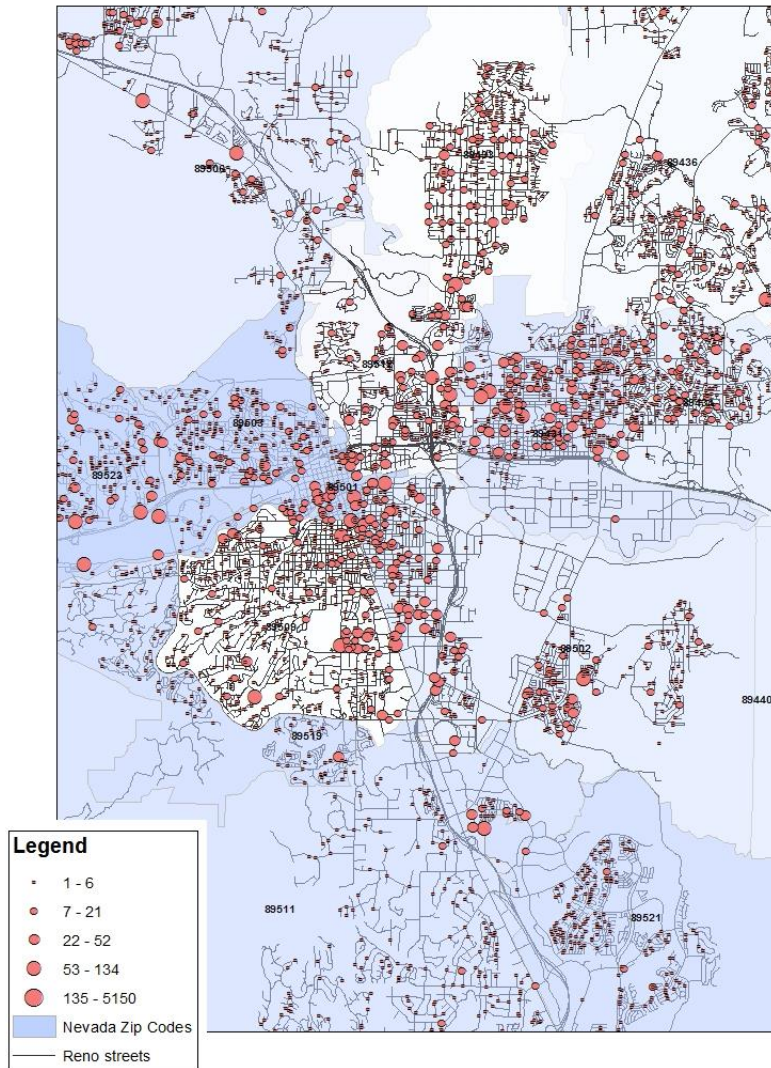
Problem Indicators by Zip Code 2011-2015



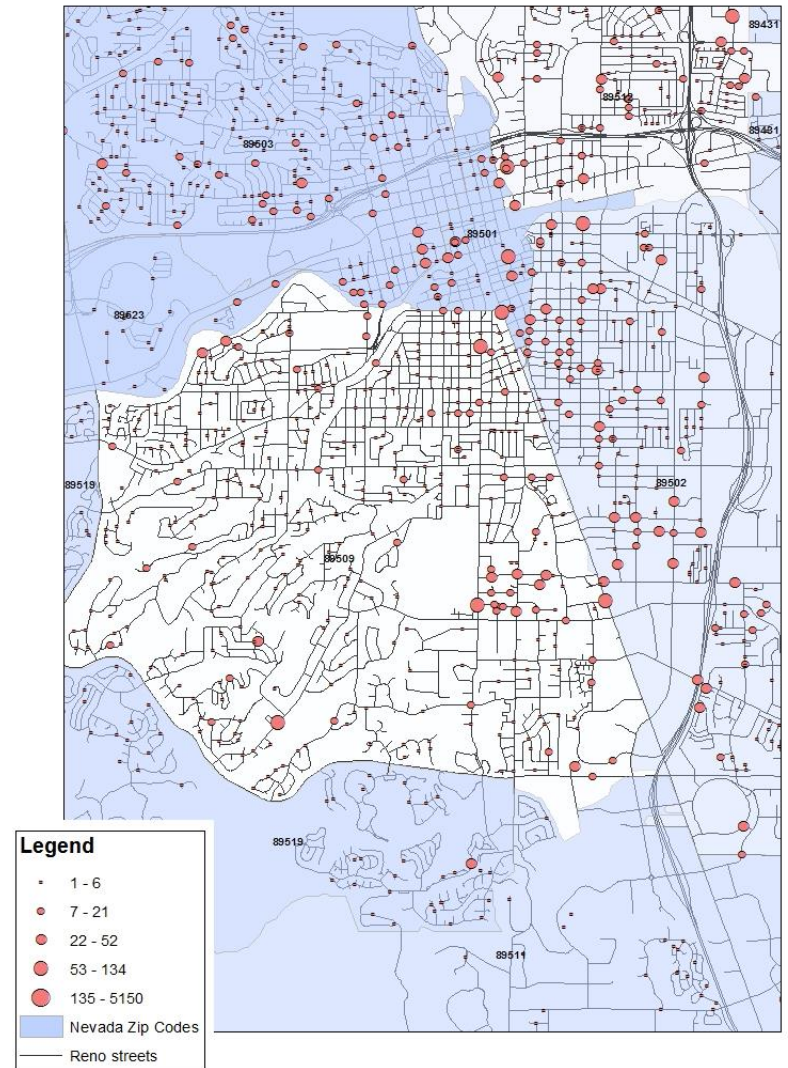
Location of Prescribers in Reno/Sparks 2011-2015



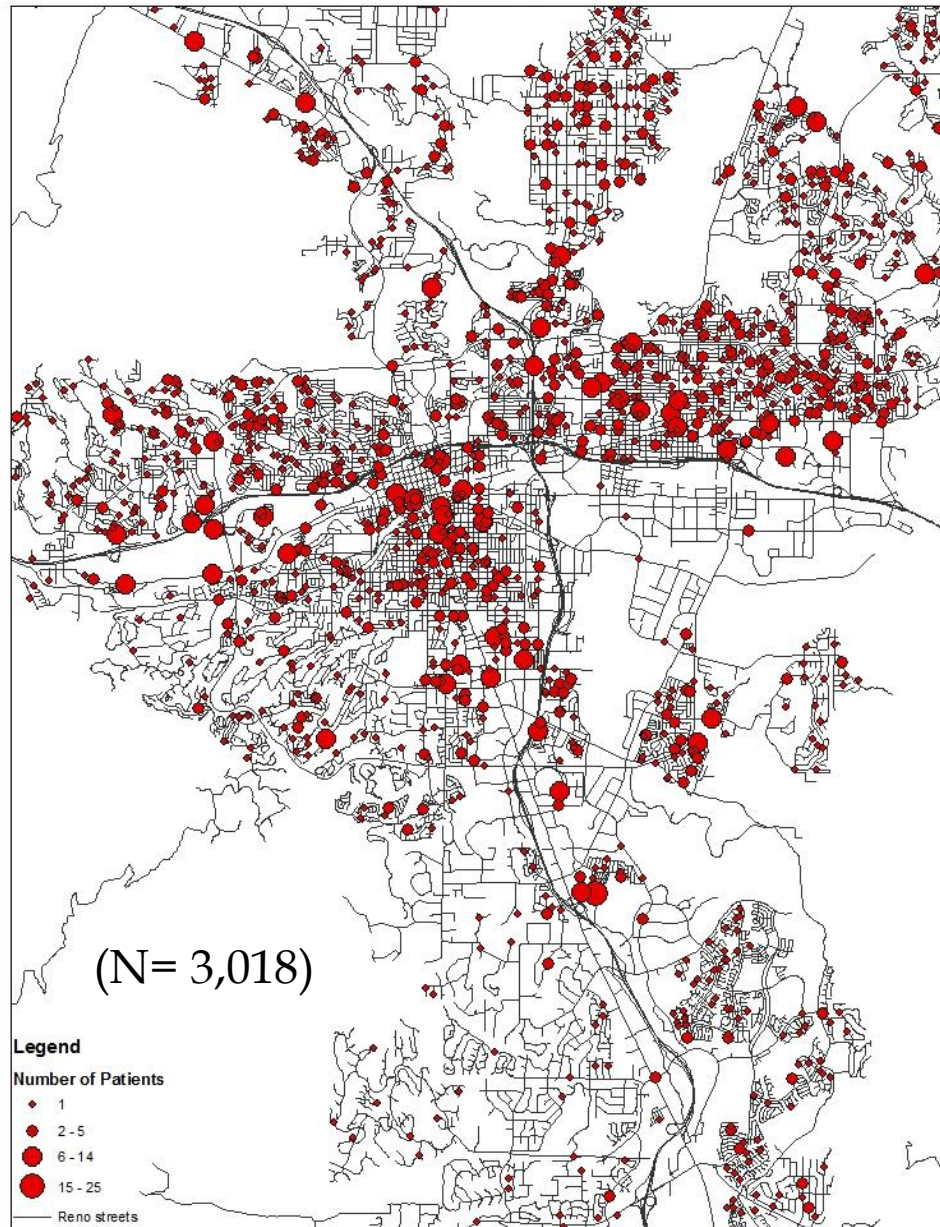
Graduated Patient Location 2011-2015



Graduated Patient Location 2011-2015



Top 1% of all Patients with Risk Indication in Reno
2011-2015



(2011-2015)

Patients in Reno with a 1.9 Problem Indication or Higher									
	Rate by Population	% of Total Patients	Number of People	Zip Code	City	State	Population	Population per Square Mile	Square Miles
	9.26%	1.46%	374	89501	Reno	NV	4,038	5,852.17	0.69
	7.74%	6.14%	1,577	89433	Sun Valley	NV	20,375	1,655.16	12.31
	7.25%	3.35%	860	89508	Reno	NV	11,868	74.79	158.69
	6.72%	10.19%	2,616	89506	Reno	NV	38,913	334.13	116.46
	6.60%	9.45%	2,394	89431	Sparks	NV	36,294	3,753.26	9.67
	6.49%	3.35%	1,707	89512	Reno	NV	26,290	3,849.19	6.83
	6.44%	11.40%	2,928	89502	Reno	NV	45,442	2,128.43	21.35
	6.35%	6.79%	1,719	89434	Sparks	NV	27,074	418.20	64.74
	6.31%	0.42%	107	89510	Reno	NV	1,696	3.20	529.49
	6.29%	1.54%	760	89441	Sparks	NV	12,082	314.39	38.43
	6.18%	6.58%	1,689	89503	Reno	NV	27,332	4,525.17	6.04
	5.61%	8.56%	2,168	89436	Sparks	NV	38,639	1,610.63	23.99
	5.47%	3.73%	1,900	89509	Reno	NV	34,733	3,829.44	9.07
	5.24%	5.14%	1,303	89511	Reno	NV	24,844	210.06	118.27
	4.95%	3.27%	1,665	89523	Reno	NV	33,651	918.67	36.63
	4.67%	5.43%	1,375	89521	Reno	NV	29,454	396.05	74.37
	4.42%	0.37%	191	89704	Washoe Valley	NV	4,321	66.07	65.4
	4.18%	1.36%	350	89519	Reno	NV	8,373	1,088.82	7.69
Total	6.04 %	100.00%	25,683	-	-	-	425,419	327.22	1300.12

Top 10 Addresses of Patients Within Boundaries of 89506 Who Are Above a 1.9 Score for All Problem Indicators

89506	Location	Frequency	Percent	Cumulative Percent
7000 BLOCK SILVER LAKE RD	Silver Lake Apartments	85	3.2	3.2
8000 BLOCK NORTH VIRGINIA ST	Skyline Mobile Home Park	49	1.9	5.1
10000 BLOCK NORTH VIRGINIA ST	Residential and Webb Business Park	42	1.6	6.7
10000 BLOCK SKY VISTA PKWY	Residential houses	32	1.2	8
10000 BLOCK CANYON MEADOWS DR	Residential houses	21	0.8	8.8
11000 BLOCK ANDES ST	Residential houses	20	0.8	9.5
7000 BLOCK LOTUS ST	Residential houses	20	0.8	10.3
10000 BLOCK FREMONT WAY	Residential houses	20	0.8	11
7000 BLOCK PEPPERMINT DR	Residential houses	19	0.7	11.8
12000 BLOCK ROCKY MOUNTAIN ST	Residential houses	18	0.7	12.5
200 BLOCK PANAMINT DR	Sierra Shadows Mobile Homes	17	0.6	13.1

Problem Patients

10000 BLOCK FREMONT WAY

1	00008d10-f68b-11e3-bc3c-00163e52751c
2	17308d30-fbbf-11e3-bc3c-00163e52751c
3	1b56b1b0-f916-11e3-bc3c-00163e52751c
4	2e18a720-f6e8-11e3-bc3c-00163e52751c
5	43a2a140-fad0-11e3-bc3c-00163e52751c
6	4dd8f4c0-fbc5-11e3-bc3c-00163e52751c
7	6211f1f0-f867-11e3-bc3c-00163e52751c
8	64441130-faf9-11e3-bc3c-00163e52751c
9	6859d930-fb49-11e3-bc3c-00163e52751c
10	75a3fb90-fc6e-11e3-bc3c-00163e52751c
11	9cc32690-fb99-11e3-bc3c-00163e52751c
12	a064fb30-f553-11e3-bc3c-00163e52751c
13	cbc1b470-f892-11e3-bc3c-00163e52751c
14	ce21e660-f633-11e3-bc3c-00163e52751c
15	d7011a50-f915-11e3-bc3c-00163e52751c
16	de9bec40-f866-11e3-bc3c-00163e52751c
17	e7ac2680-f7bf-11e3-bc3c-00163e52751c
18	ed3ece10-face-11e3-bc3c-00163e52751c
19	f3adf9b0-fbbe-11e3-bc3c-00163e52751c
20	fb5a80d0-fbbd-11e3-bc3c-00163e52751c

Heroin Connection

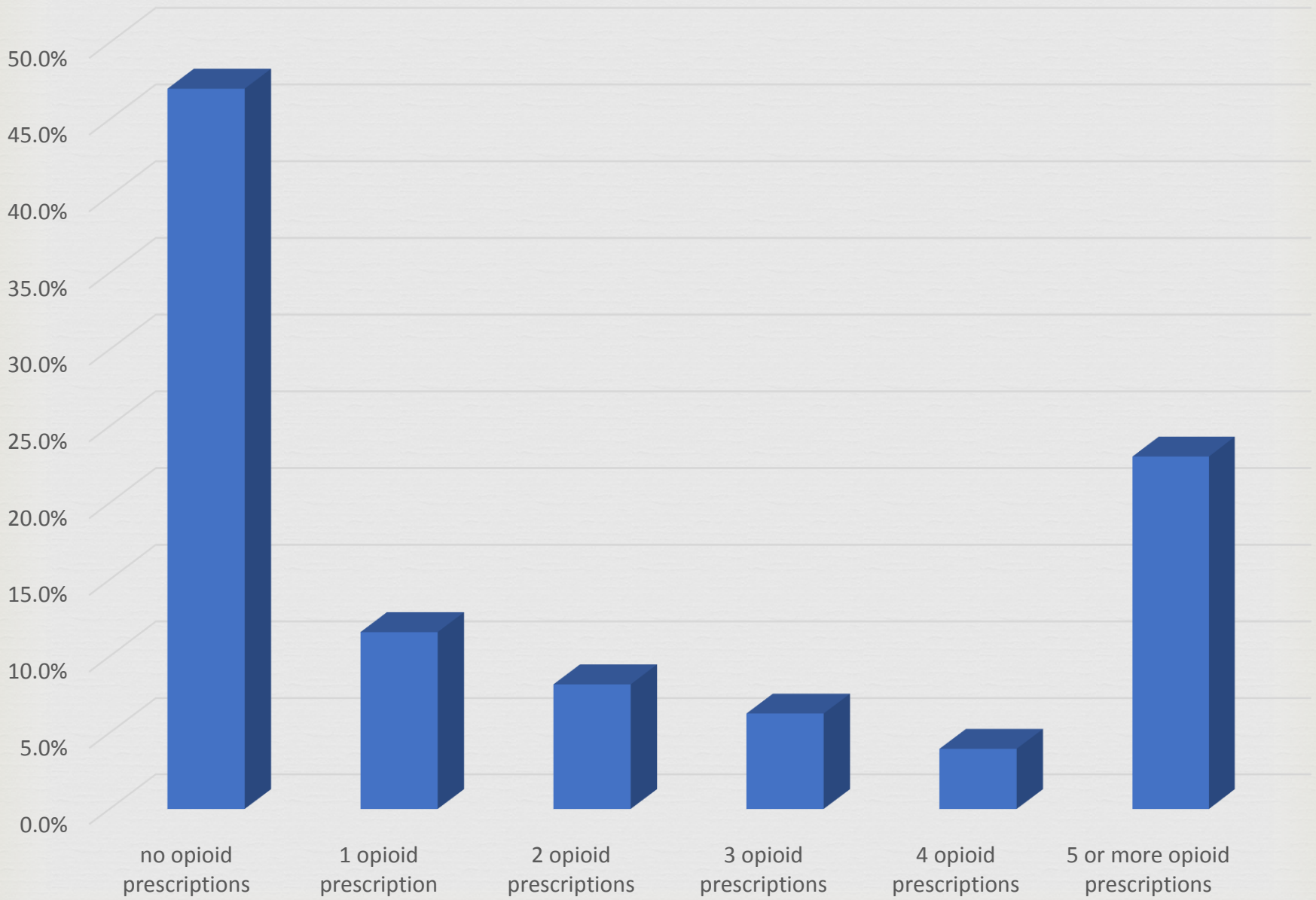


Heroin arrestee data



- ❧ Individuals arrested by Reno P.D. for heroin related charges between 2011 – 2015
- ❧ Number of cases: 735
- ❧ Looked up individuals' Nevada PMP histories
- ❧ Goal: determine how frequently prescription opioid use co-occurs with heroin use, and whether there appears to be any linear progression

Of those arrested for heroin, % of people with...

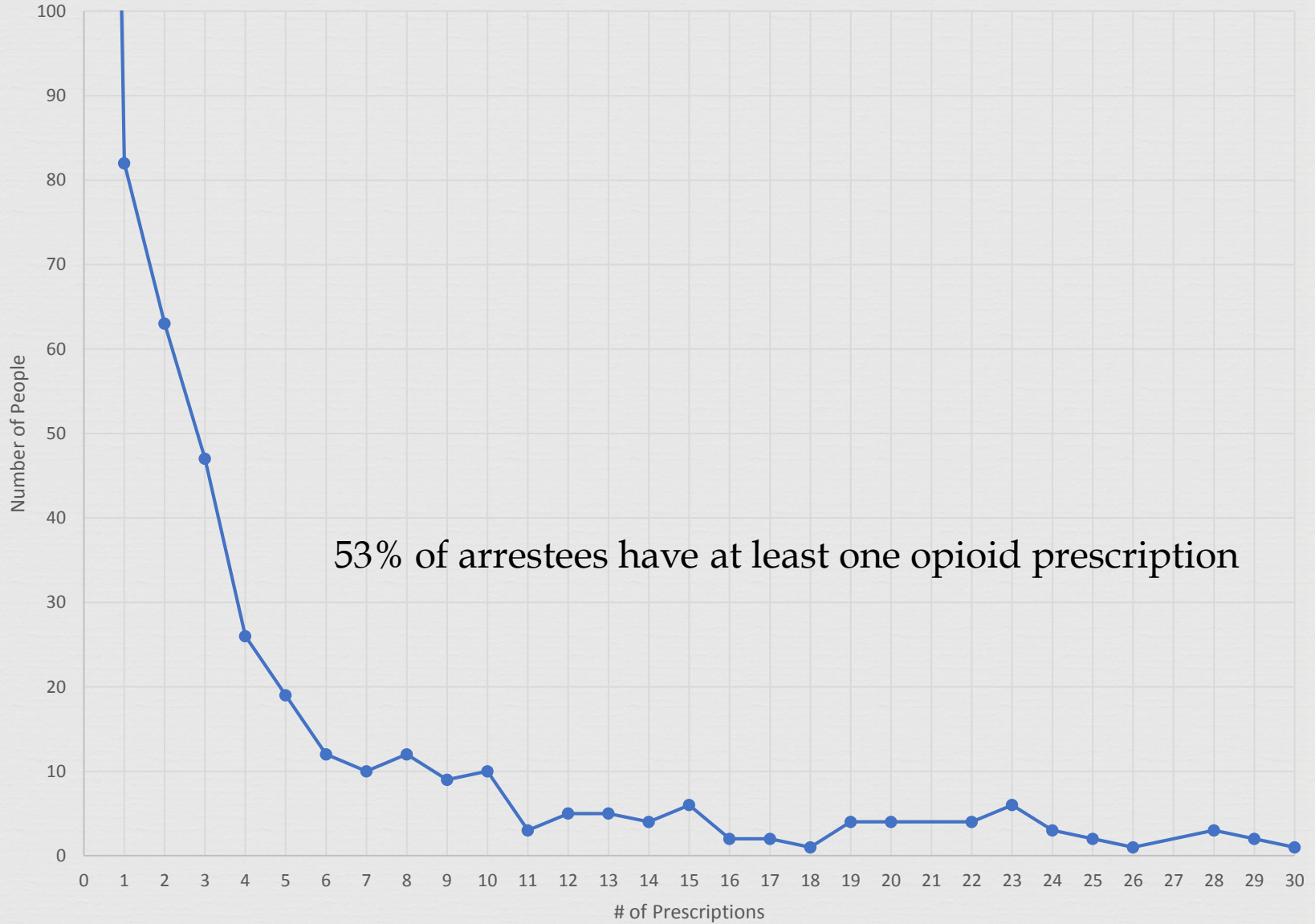


Reno Police Department

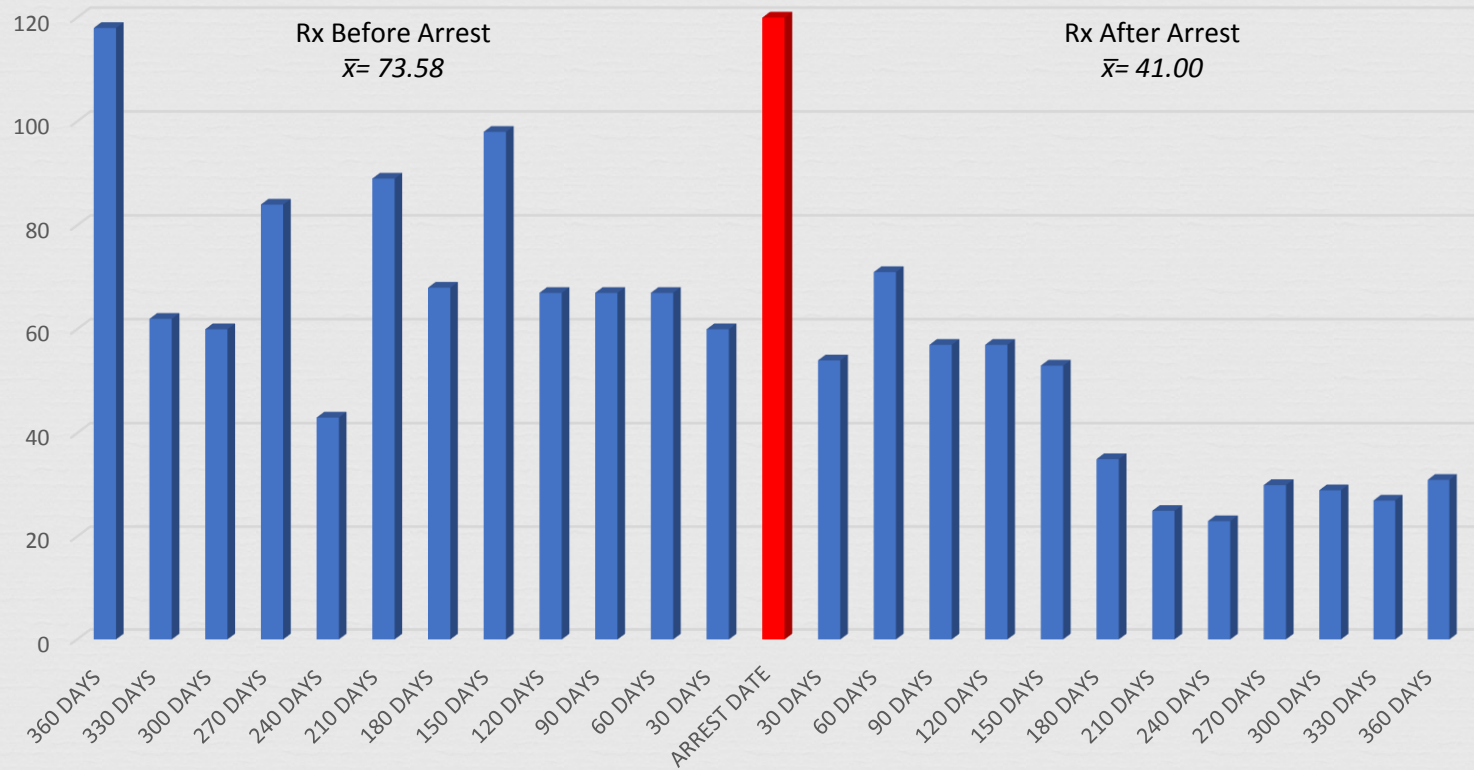
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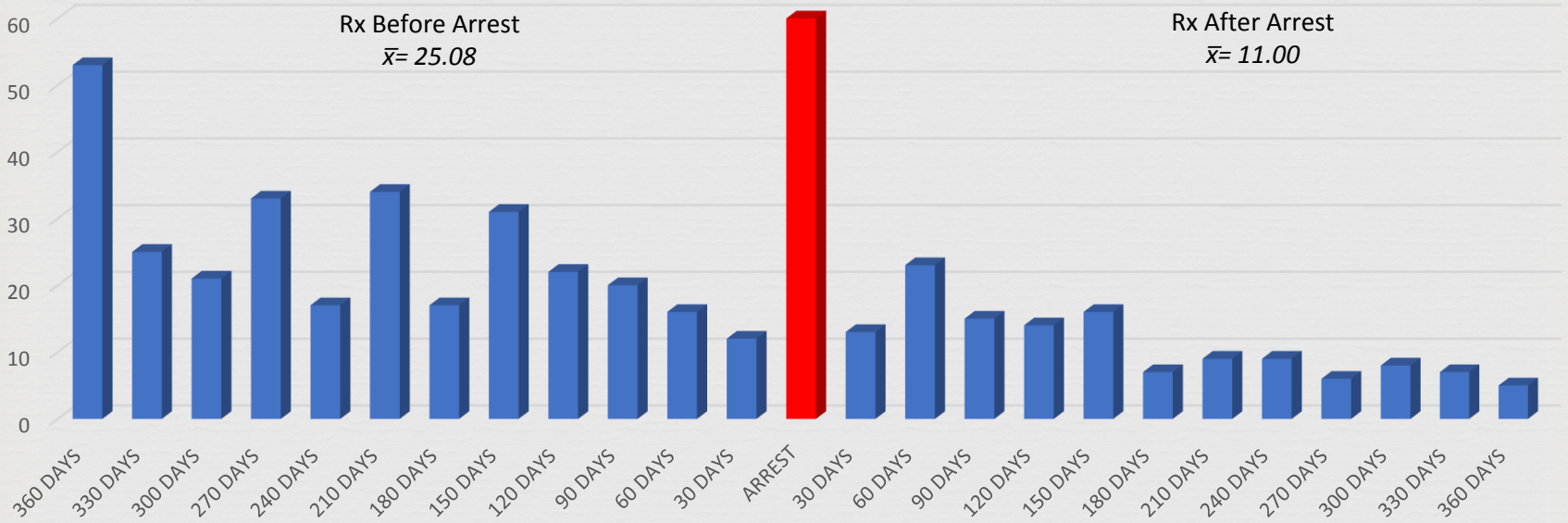
Number of Opioid Scripts per Heroin Arrestee



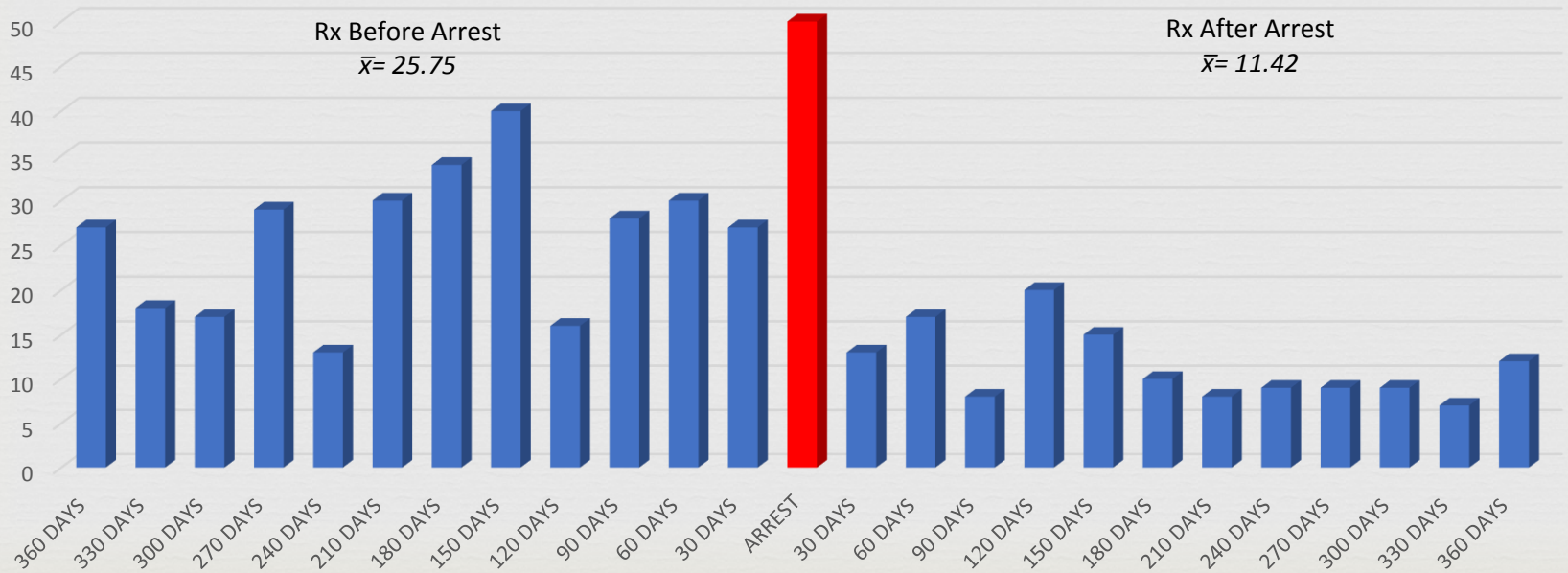
Opioid Scripts Pre/Post Arrest



Oxycodone Scripts Pre/Post Arrest



Hydrocodone Scripts Pre/Post Arrest

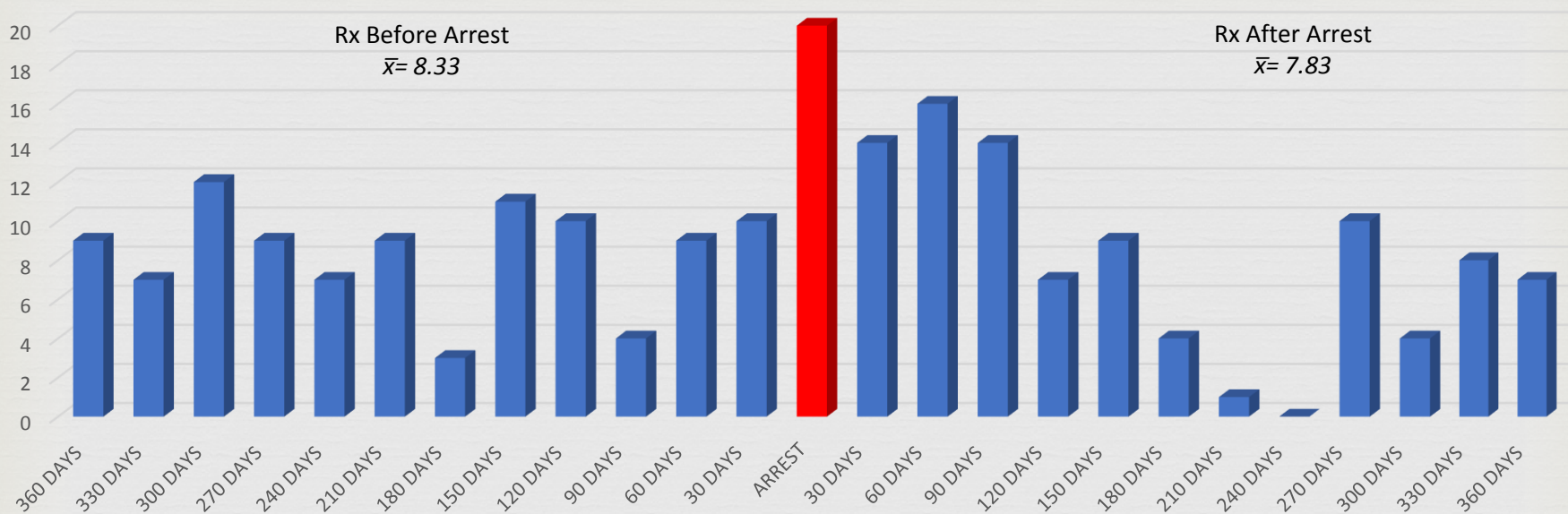


Reno Police Department

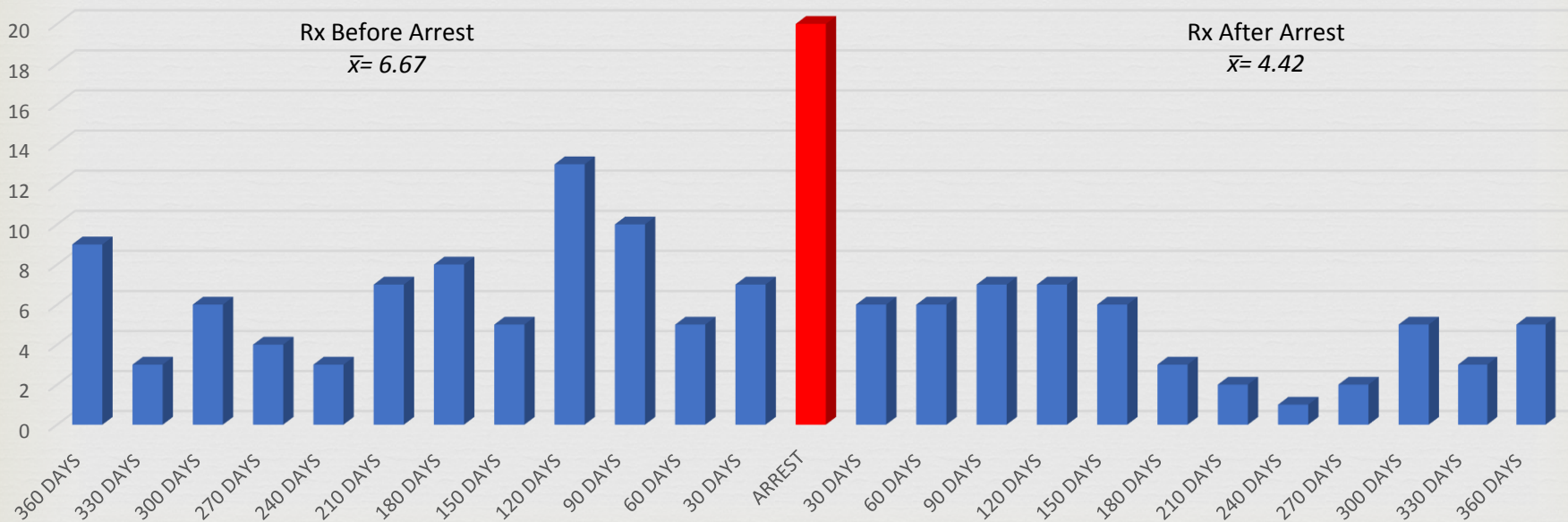
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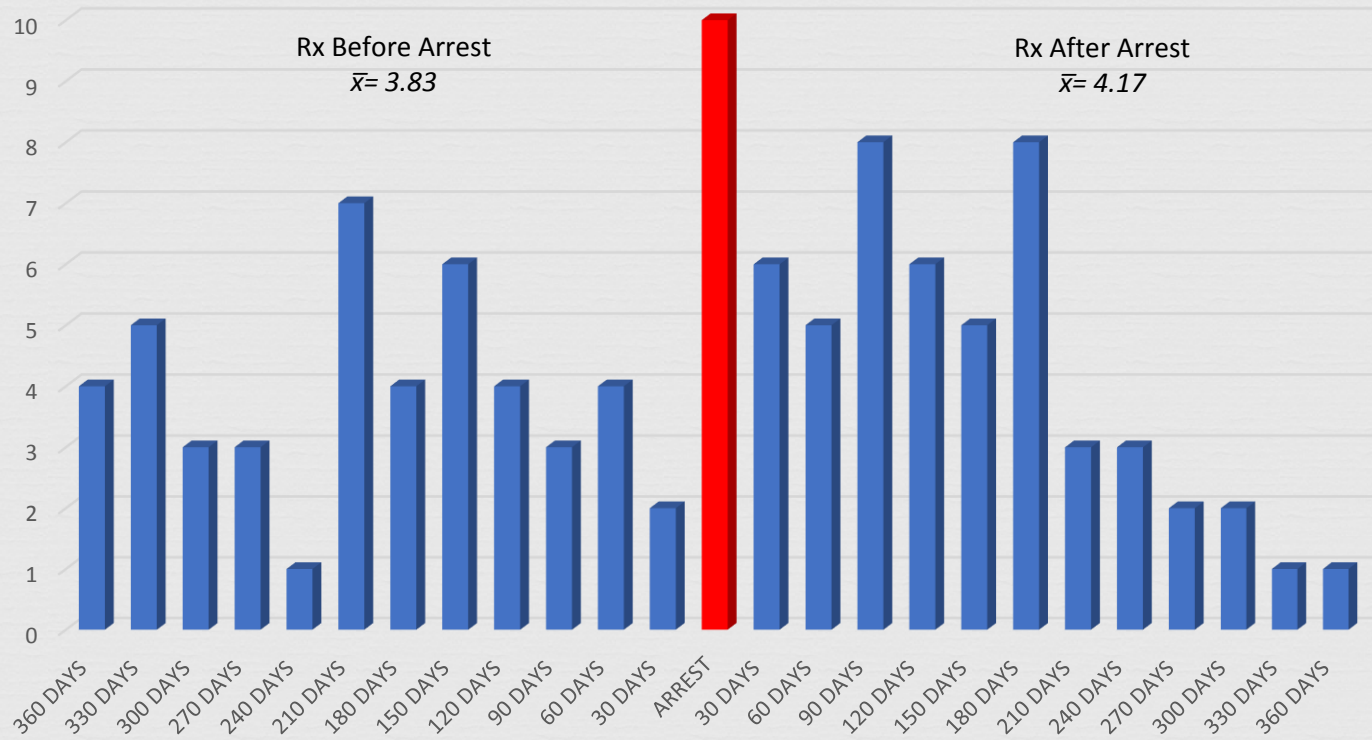
Buprenorphine Scripts Pre/Post Arrest



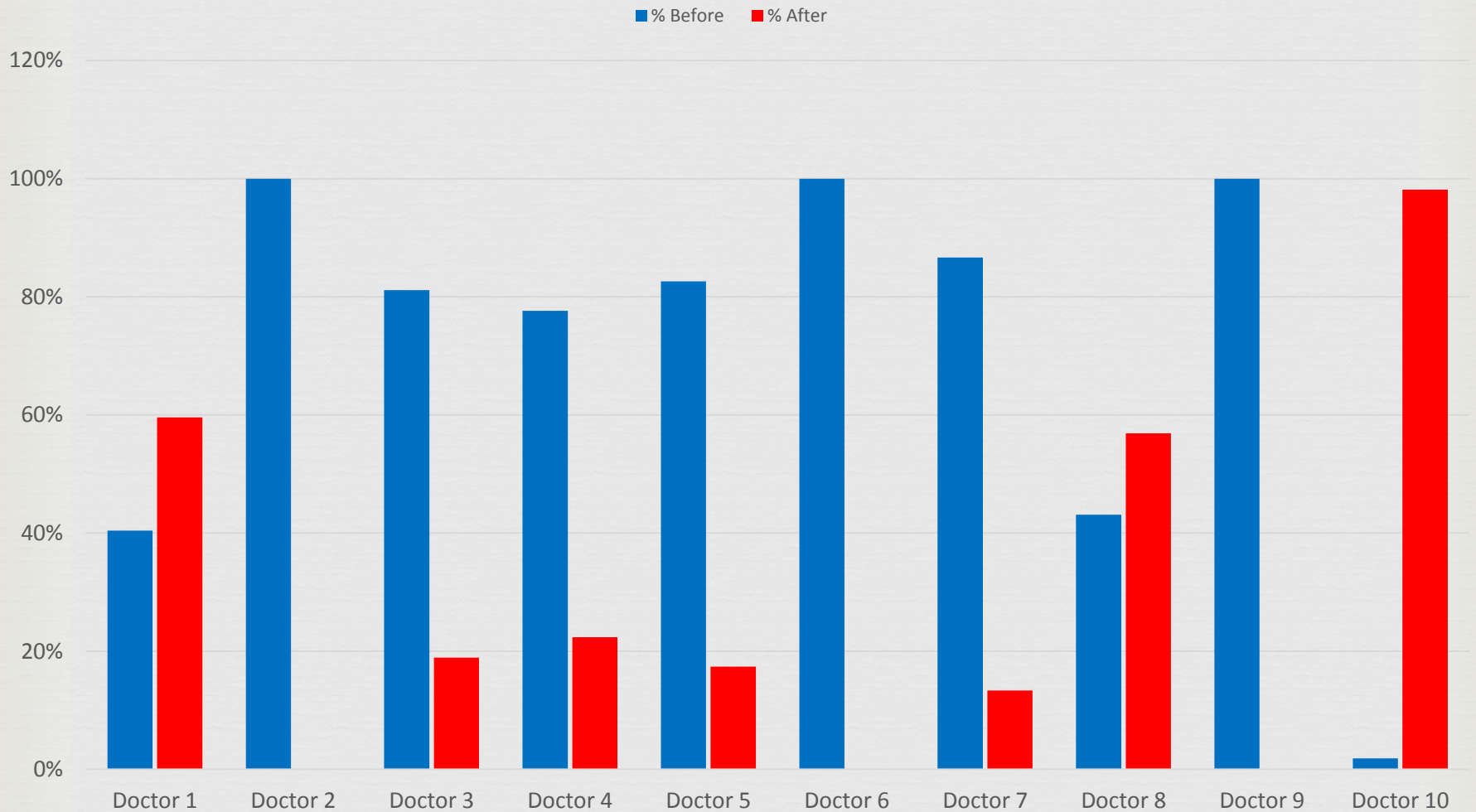
Methodone Scripts Pre/Post Arrest



Morphine Scripts Pre/Post Arrest



Top 10 Opioid Prescribing Doctors for Heroin Arrestees 2011-2015



Reno Police Department

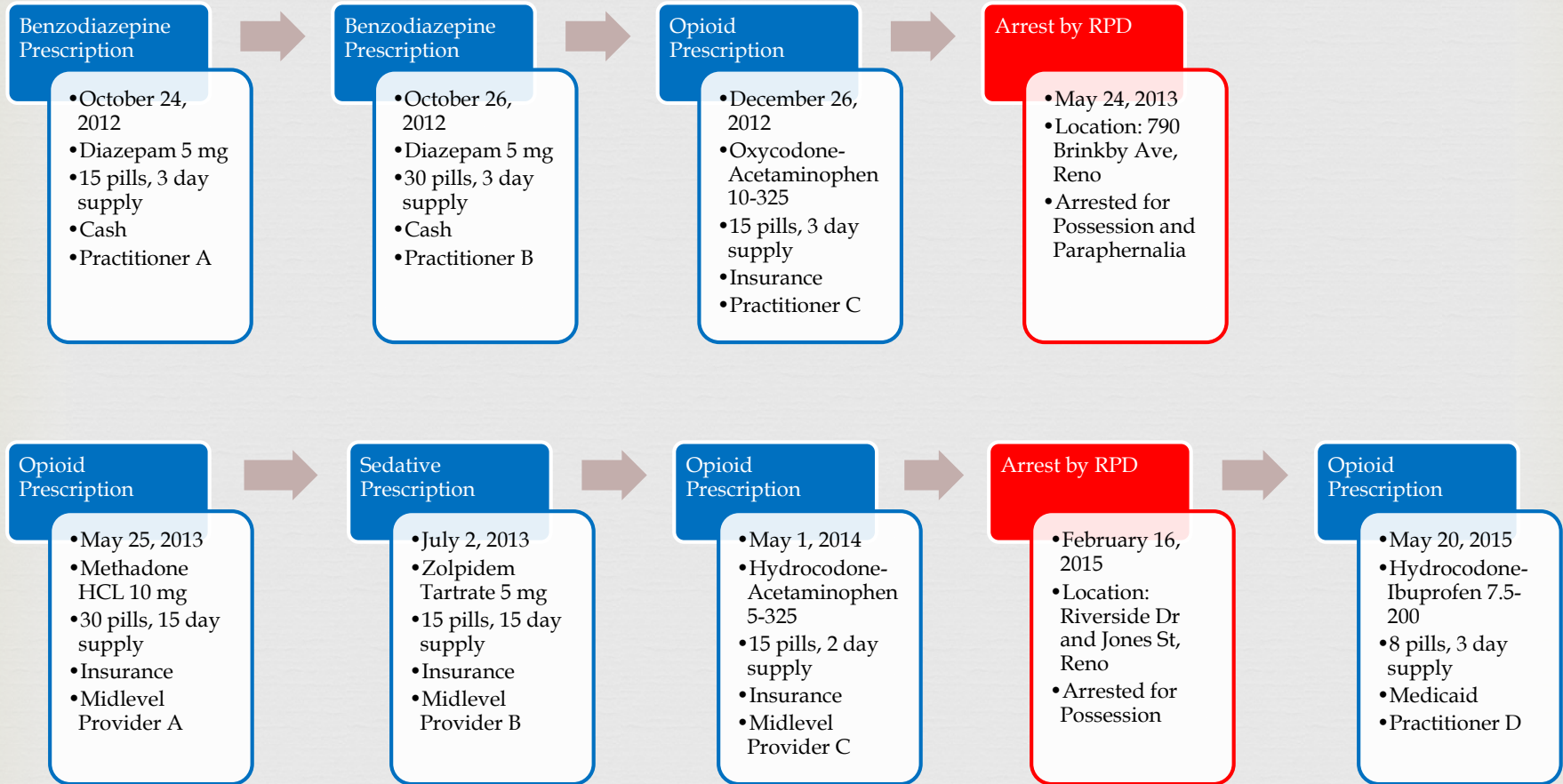
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Top Opioid Prescribing Doctors for People Arrested for Heroin

	Specialty	Overall Opioid* Scripts	Before Arrest	% Before	After Arrest	% After	% Difference
Doctor 1	internal medicine	99	40	40%	59	60%	+20%
Doctor 2	family medicine	98	98	100%	0	0%	-100%
Doctor 3	family medicine	90	73	81%	17	19%	-62%
Doctor 4	internal medicine	76	59	78%	17	22%	-55%
Doctor 5	orthopedic surgery	69	57	83%	12	17%	-65%
Doctor 6	family medicine	65	65	100%	0	0%	-100%
Doctor 7	family medicine	60	52	87%	8	13%	-73%
Doctor 8	physical medicine & rehab	58	25	43%	33	57%	+14%
Doctor 9	family medicine	55	55	100%	0	0%	-100%
Doctor 10	family medicine	54	1	2%	53	98%	+96%

Patient X: 42 year old white female



All Prescriptions from 2011-2015

Total Prescriptions: 7

Total Opioid Prescriptions: 4

Total Providers: 7

Total Arrests: 2

Summary – Heroin data



- ❧ Misuse of and/or addiction to prescription opioids does not progress to heroin use in a strictly linear manner, but rather, the concurrent use of prescribed opioids is relatively common among heroin users
- ❧ Practitioners should be aware that they may be seeing (and prescribing controlled substances to) patients that have already initiated heroin use
- ❧ Brief screening and referral to treatment services is critical in the prevention of opioid-related overdose

Law Enforcement Response



- Assign detective(s) dedicated to Rx cases
- Pharmacy visits
 - Packets containing: witness statements, custodian of records forms, additional checklists, Rx Fraud Reporting Flyer, checklist of items needed in Rx fraud case
 - Assured HIPAA does not apply in cases of prescription fraud, and Rx info can be provided to law enforcement, via letter from General Counsel
 - Flyers for Rx Diversion & Fraud law CE classes in August
- Detectives explained procedures for when a prescription fraud has occurred
 - Video surveillance, reporting to LE even if the Rx was not filled

How to Report Prescription Fraud

To report a fraudulent prescription, doctor shopper, or other prescription related crime occurring in Reno or Sparks, please utilize one of the following options:

- **Suspect on scene, call dispatch**
 - **775-334-COPS (334-2677)**

- **Rx Fraud Hotline**
 - **775-334-6256**

- **Rx Fraud Email**
 - **RxFraud@reno.gov**

Regional Street Enforcement Team



Law Enforcement Response



LAW CE classes

- Target audience: pharmacists and pharmacy technicians (Covered prescription fraud investigations, as well as new legislative changes relating to prescriptions and the PMP)

Training for patrol officers

- Patrol officers were trained by SET Detectives in what to do if they are called to a prescription fraud case (information to gather, who to refer to for follow-up investigation, etc.)
- 2 Detectives & 1 Sergeant registered to attend "Advanced Pharmaceutical Crime Investigations" class sponsored by HIDTA
- RPD working with HIDTA to co-sponsor additional pharmaceutical diversion training for law enforcement

Doctor Training



- ❧ Classes held in September 2016 and May 2017
- ❧ Sept. 2016 class:
 - ❧ Two speakers – one local primary care physician and one pain specialist/anesthesiologist from New York
- ❧ May 2017 class:
 - ❧ 7 speakers – combination of physicians, psychologists, pharmacists & treatment providers

182 Doctors attended Training

	Pre Training (3 months)	Post training (3 months)	Impact
# of Rx	24,896	19,673	21% Decrease
# of Opiod Rx	14,268	12,376	13% Decrease
# of Opiod Pills	1,285,691	1,150,656	11% Decrease
# of MME's	719,293	595,083	17% Decrease

Drug Type	Training	No Training
Morphine Rx	26% Decrease	8% Increase
Morphine Pills	26% Decrease	5% Increase
Fentanyl Rx	26% Decrease	22% Increase
Fentanyl Patches	20% Decrease	29% Increase

Summary

- Geographically widespread
- Focus on top percentage (1% for us is still 3,000 people)
- Need to reduce flow into street through education
- Future research points:
 - Prevalence of risk indicators, any other common factors among heroin using population
 - Analysis of “outlier” prescribing behaviors to guide future unsolicited reports

These findings are the sole property of the listed project partners, and may not be shared, disseminated or sold without the express permission of the Reno Police Department. This project was supported by Grant No. 2015-PM-BX-K005 awarded by the Bureau of Justice Assistance. The Bureau of Justice Assistance is a component of the Department of Justice's Office of Justice Programs, which also includes the Bureau of Justice Statistics, the National Institute of Justice, the Office of Juvenile Justice and Delinquency Prevention, the Office for Victims of Crime, and the SMART Office. Points of view or opinions in this document are those of the author and do not necessarily represent the official position or policies of the U.S. Department of Justice.