

Practitioner Diversion Awareness Conference

Drugs of Abuse and Trends





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Course Objectives

- **Discuss the Public Health Epidemic.**
- **Review the common drugs of abuse.**
- **Discuss the relationship between pharmaceutical controlled substances and heroin.**



Course Objectives

- **Discuss the violence related to controlled substance prescribing and dispensing.**
- **Review key research and studies involving the impact of indiscriminate prescribing of controlled substances.**



Questions to Discuss

At the completion of this block of instruction you will be able to answer the following questions:

- 1. Which country, per million population, has the largest amount of drug induced deaths ages 15-64?**
- 2. Where does Arizona rate in the United States in the amount of oxycodone dispensed?**



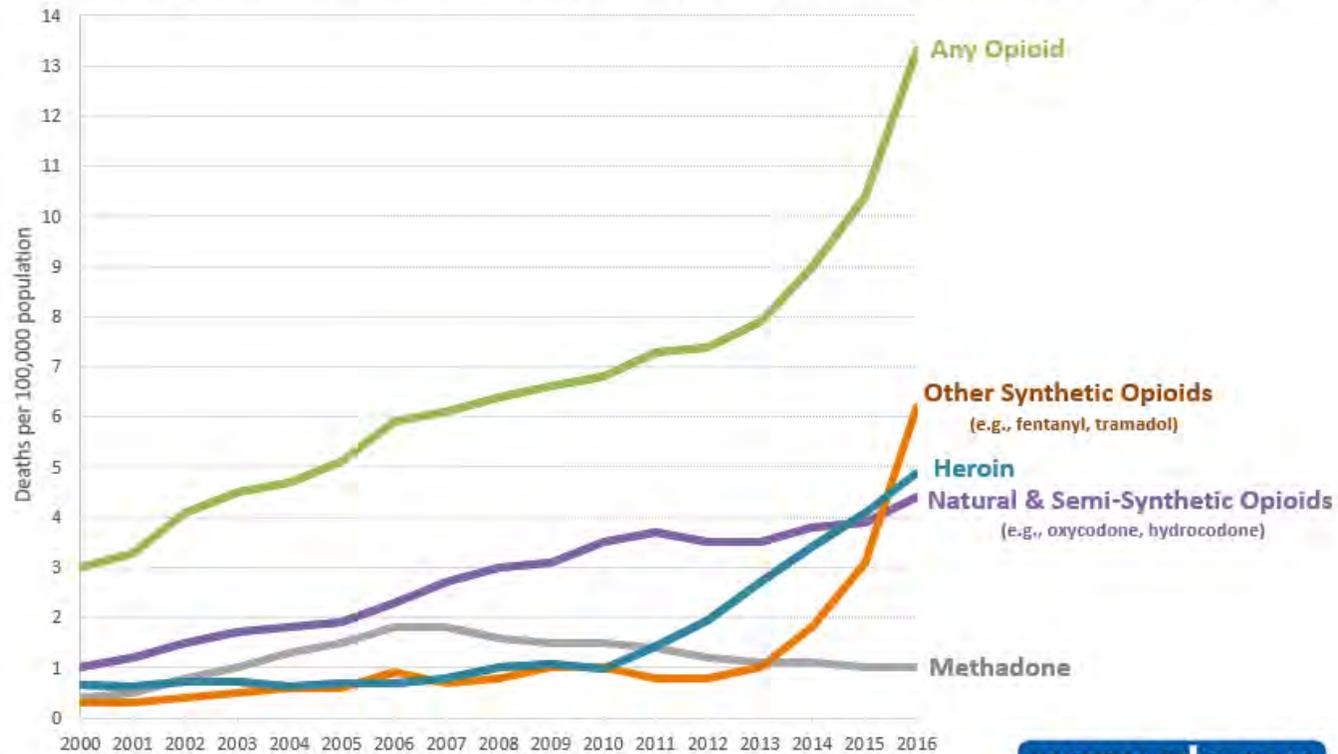
Questions to Discuss

- 3. What percentage of the world's hydrocodone production does the United States consume?**
- 4. What is the most misused prescription controlled substance pain reliever in the United States?**
- 5. What percent of heroin users began their addictions with prescribed pain relievers?**



The Problem – People Are Dying

Overdose Deaths Involving Opioids, by Type of Opioid, United States, 2000-2016

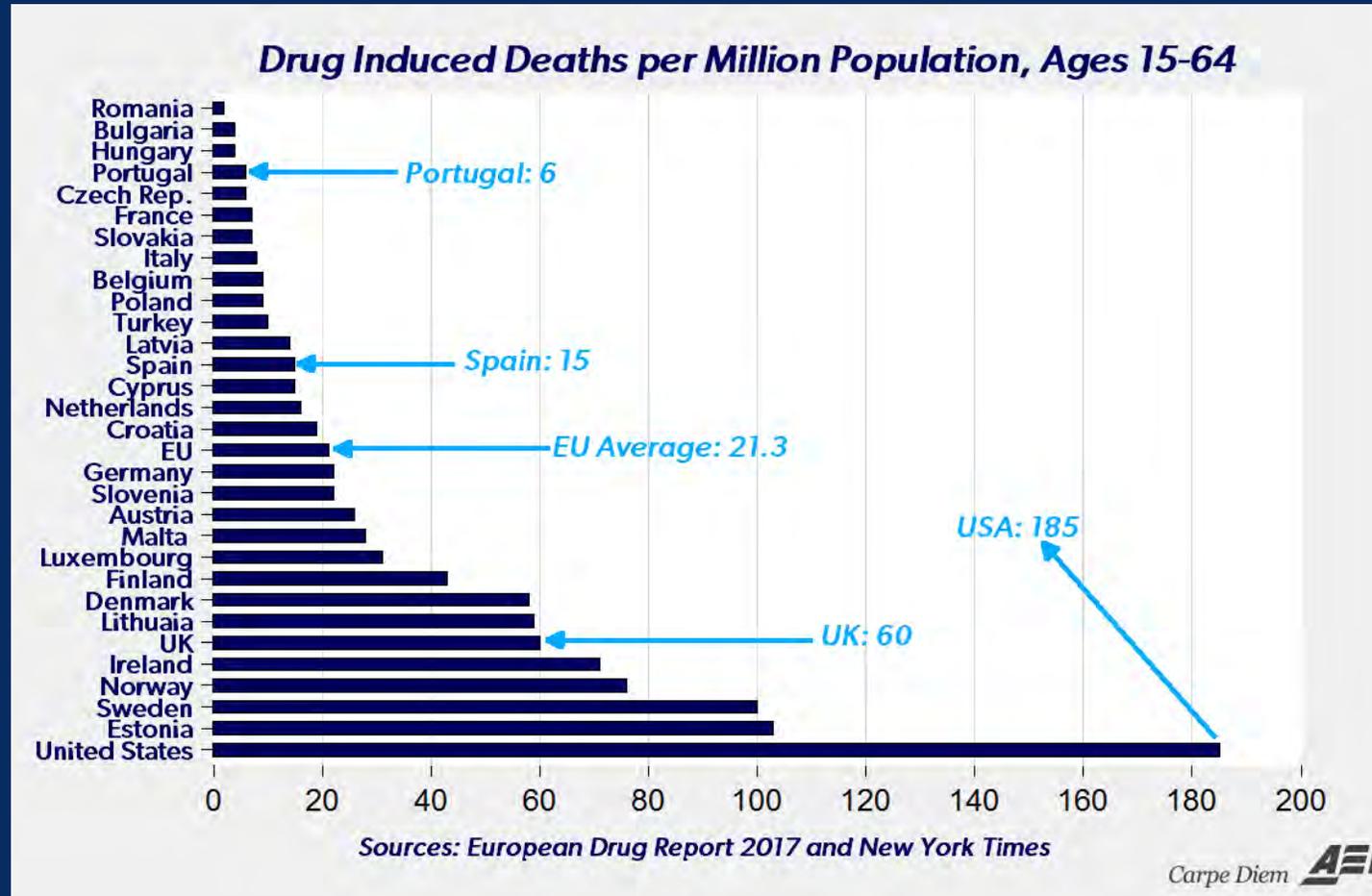


SOURCE: CDC/NCHS, National Vital Statistics System, Mortality, CDC WONDER, Atlanta, GA: US Department of Health and Human Services, CDC; 2017. <https://wonder.cdc.gov/>.

www.cdc.gov
Your Source for Credible Health Information



The Problem – People Are Dying





Drugs of Abuse

The top 5 distributed scheduled controlled substances in the United States:

- 1. Hydrocodone (e.g. Vicodin, Lorcet)**
- 2. Oxycodone (e.g. Percocet, Roxicodone)**
- 3. Amphetamines (e.g. Adderall, Dexedrine)**
- 4. Methylphenidate (e.g. Ritalin, Concerta)**
- 5. Morphine (e.g. MS Contin, Oramorph)**



Where Does the United States Rank In Consumption?

Drug Name	United States (Pop. 320 Mil.)		China (Pop. 1.37 Billion)		World (7.3 Bil)
	Percent	Tons	Percentage	Tons	Tons
Hydrocodone			0.00%	0.001	36.3
Oxycodone			1.08%	0.9	83.2
Morphine			3.92%	1.6	40.8
Codeine			2.66%	7.6	285.5
Methadone			4.56%	1.5	32.9
Fentanyl			0.32%	0.006	1.85

Source (2017). INCB data, International Narcotics Board: Comments on Reported Statistics on Narcotic Drugs.



Hydrocodone

- **Hydrocodone / Acetaminophen (toxicity)**
- **Similarities:**
 - **Structurally related to codeine**
 - **Equal to morphine in producing opiate-like effects**
- **Brand Names: Vicodin[®], Lortab[®], Lorcet[®]**





Hydrocodone

- **October 6, 2014 moved to SCHEDULE II**
- **Street prices: \$2 to \$10 per tablet depending on strength & region**





The Trinity Cocktail



Hydrocodone

Opioid



Muscle Relaxant



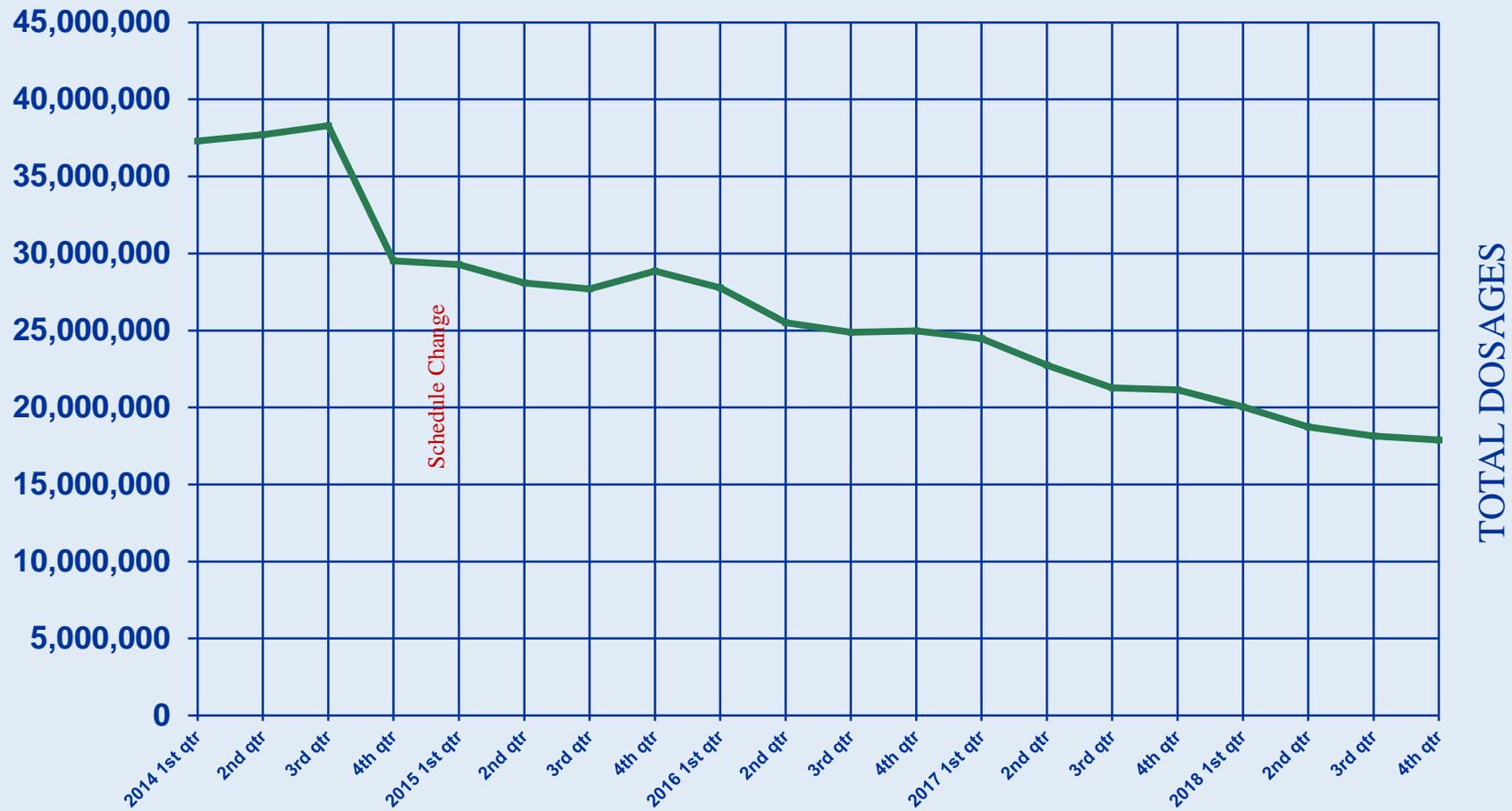
Alprazolam

Benzodiazepine

Nationwide Hydrocodone Distribution 2014-2018



Arizona Hydrocodone Distribution 2014-2018





Hydrocodone Distribution

Retail Pharmacies



State Ranking

Average Per 100K Population*

Hydrocodone

January – December 2018

RANK	STATE	TOTAL	RANK	STATE	TOTAL	RANK	STATE	TOTAL	RANK	STATE	TOTAL	RANK	STATE	TOTAL
1	KY	3,188,067	12	NV	1,945,054	23	IA	1,377,053	34	ME	968,733	45	NH	504,394
2	AL	3,170,657	13	KS	1,928,574	24	UT	1,374,397	35	AK	918,542	46	DE	456,158
3	OK	2,893,355	14	WV	1,901,637	25	WY	1,316,359	36	ND	886,377	47	MD	402,421
4	AR	2,861,115	15	SC	1,864,541	26	NE	1,284,863	37	PA	876,701	48	CT	385,228
5	TN	2,397,920	16	OR	1,766,073	27	NC	1,261,528	38	VA	847,729	49	MA	351,637
6	IN	2,396,883	17	MT	1,664,945	28	FL	1,192,959	39	CO	830,638	50	NJ	253,277
7	MI	2,370,022	18	TX	1,585,340	29	OH	1,168,451	40	HI	806,587	51	VI	181,725
8	ID	2,335,084	19	GA	1,584,913	30	SD	1,140,159	41	RI	724,803	52	DC	153,144
9	MS	2,146,729	20	CA	1,559,081	31	NM	1,139,457	42	MN	656,179	53	GU	46,909
10	LA	2,133,678	21	IL	1,540,258	32	AZ	1,103,984	43	NY	592,057	54	PR	5,740
11	MO	1,994,749	22	WA	1,392,248	33	WI	1,067,834	44	VT	545,467	55	AS	0

* *Business Activity – Retail Pharmacies*

Source: Drug Enforcement Administration, Office of Diversion Control, Pharmaceutical Investigations Section, Targeting and Analysis Unit
Most current ARCOS information as of 08/27/2016



Hydrocodone Distribution Practitioner's Office



State Ranking

Average Per 100K Population*

Hydrocodone

January – December 2018

RANK	STATE	TOTAL	RANK	STATE	TOTAL	RANK	STATE	TOTAL	RANK	STATE	TOTAL	RANK	STATE	TOTAL
1	HI	25,091	12	NV	4,893	23	IA	3,488	34	LA	2,482	45	KS	1,635
2	GA	8,376	13	FL	4,766	24	NJ	3,100	35	SD	2,456	46	AR	1,594
3	MO	7,351	14	MT	4,760	25	WI	3,053	36	NY	2,134	47	SC	1,028
4	WY	6,988	15	WA	4,593	26	MN	2,990	37	OH	2,082	48	VT	991
5	CA	6,775	16	ID	4,333	27	UT	2,951	38	MA	2,053	49	DC	897
6	ND	6,551	17	AL	4,114	28	CT	2,667	39	GU	2,018	50	NM	883
7	MD	6,484	18	AZ	4,089	29	NE	2,602	40	TX	2,015	51	MS	571
8	IL	6,041	19	TN	3,925	30	MI	2,576	41	DE	1,993	52	NH	135
9	AK	5,300	20	VA	3,815	31	RI	2,537	42	ME	1,882	53	AS	0
10	CO	5,219	21	OK	3,670	32	IN	2,528	43	WV	1,867	54	PR	0
11	OR	5,173	22	KY	3,511	33	PA	2,508	44	NC	1,718	55	VI	0

* *Business Activity – Retail Practitioners*

Source: Drug Enforcement Administration, Office of Diversion Control, Pharmaceutical Investigations Section, Targeting and Analysis Unit
Most current ARCOS information as of 08/27/2016



OxyContin®

The
1990s





OxyContin®

- **OxyContin® controlled release formulation of Schedule II oxycodone:**
 - **The controlled release method of delivery allowed for a longer duration of drug action and contained much larger doses of oxycodone.**
 - **Abusers easily compromised the controlled release formulation by crushing the tablets for a powerful morphine-like high.**
 - **10, 20, 40, 80mg available.**



OxyContin®

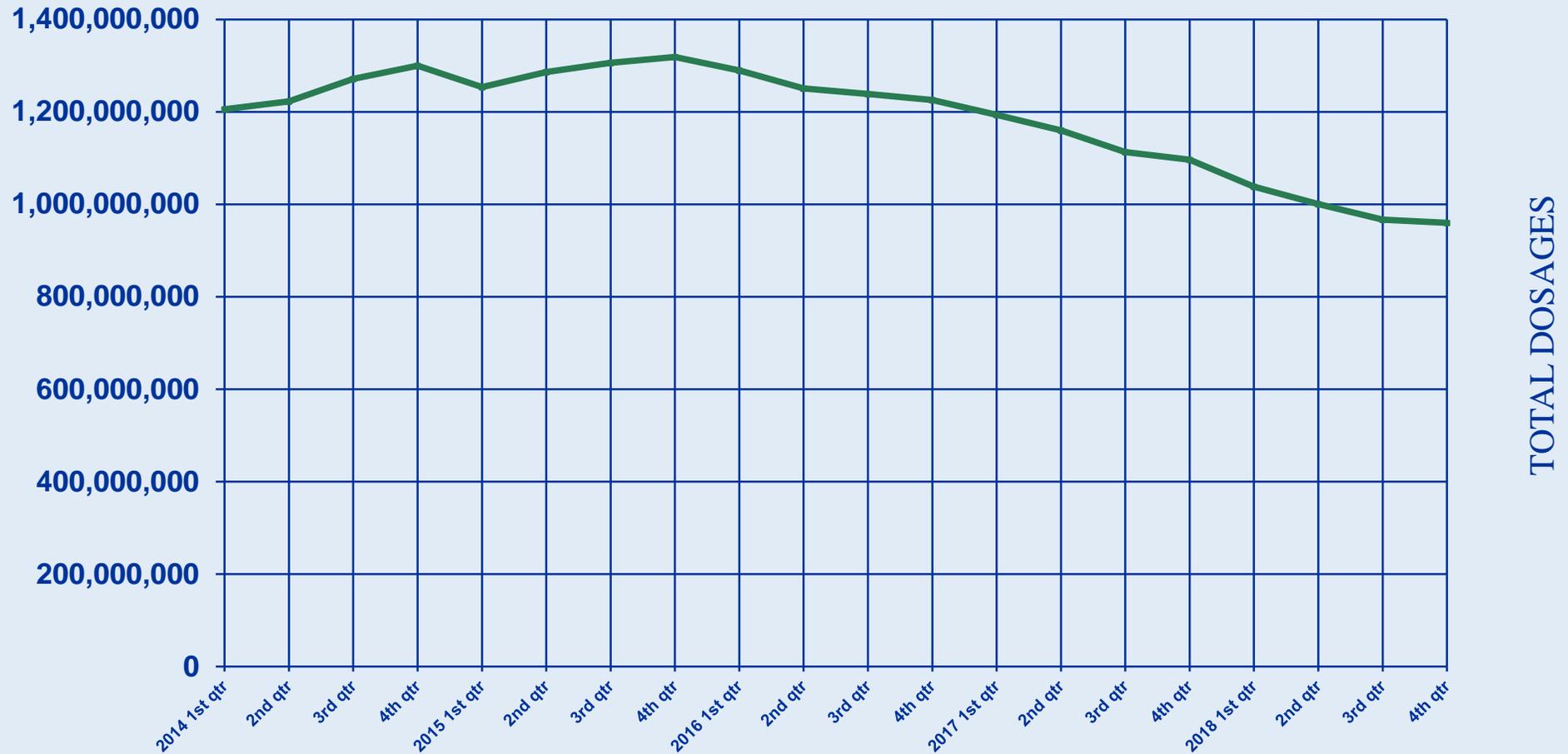
- **Effects:**
 - **Similar to morphine in effects and potential for abuse/dependence.**
 - **Sold in “Cocktails” such as:**
 - **Oxycodone, Soma ® and Xanax®**



OxyContin®

- **Street price: Approx. \$80 per 80mg tablet**
- **90 tabs prescribed a month =**
- **\$7200 a month income.**
- **\$85,400 year.**

Nationwide Oxycodone Distribution 2014 - 2018





Oxycodone Distribution

Retail Pharmacies



State Ranking

Average Per 100K Population*

Oxycodone

January – December 2018

RANK	STATE	TOTAL	RANK	STATE	TOTAL									
1	TN	2,210,000	12	OK	1,612,469	23	ME	1,351,121	34	VA	1,154,898	45	MI	745,202
2	DE	2,184,853	13	FL	1,573,010	24	CO	1,340,700	35	IN	1,145,469	46	ND	719,122
3	AZ	1,981,541	14	OH	1,522,968	25	KS	1,339,171	36	WI	1,144,344	47	SD	657,859
4	NC	1,952,249	15	SC	1,522,007	26	CT	1,331,781	37	RI	1,109,030	48	CA	611,674
5	OR	1,815,155	16	AL	1,484,259	27	AR	1,306,212	38	VT	1,095,364	49	IA	604,770
6	UT	1,789,318	17	NJ	1,451,008	28	WV	1,290,420	39	NY	1,075,752	50	IL	345,035
7	NV	1,785,517	18	MO	1,421,093	29	MA	1,263,347	40	MS	1,070,969	51	TX	327,842
8	MD	1,713,608	19	WY	1,420,181	30	AK	1,260,635	41	MN	1,028,595	52	PR	194,453
9	KY	1,688,158	20	GA	1,383,768	31	LA	1,245,386	42	HI	914,721	53	VI	194,309
10	PA	1,659,693	21	NH	1,381,153	32	ID	1,231,659	43	DC	829,225	54	GU	186,292
11	WA	1,620,092	22	NM	1,372,984	33	MT	1,188,490	44	NE	795,049	55	AS	0

* *Business Activity – Retail Pharmacies*

Source: Drug Enforcement Administration, Office of Diversion Control,
 Pharmaceutical Investigations Section, Targeting and Analysis Unit
 Most current ARCOS information as of 08/27/2016



Oxycodone Distribution

Practitioner's Office



State Ranking

Average Per 100K Population*

Oxycodone

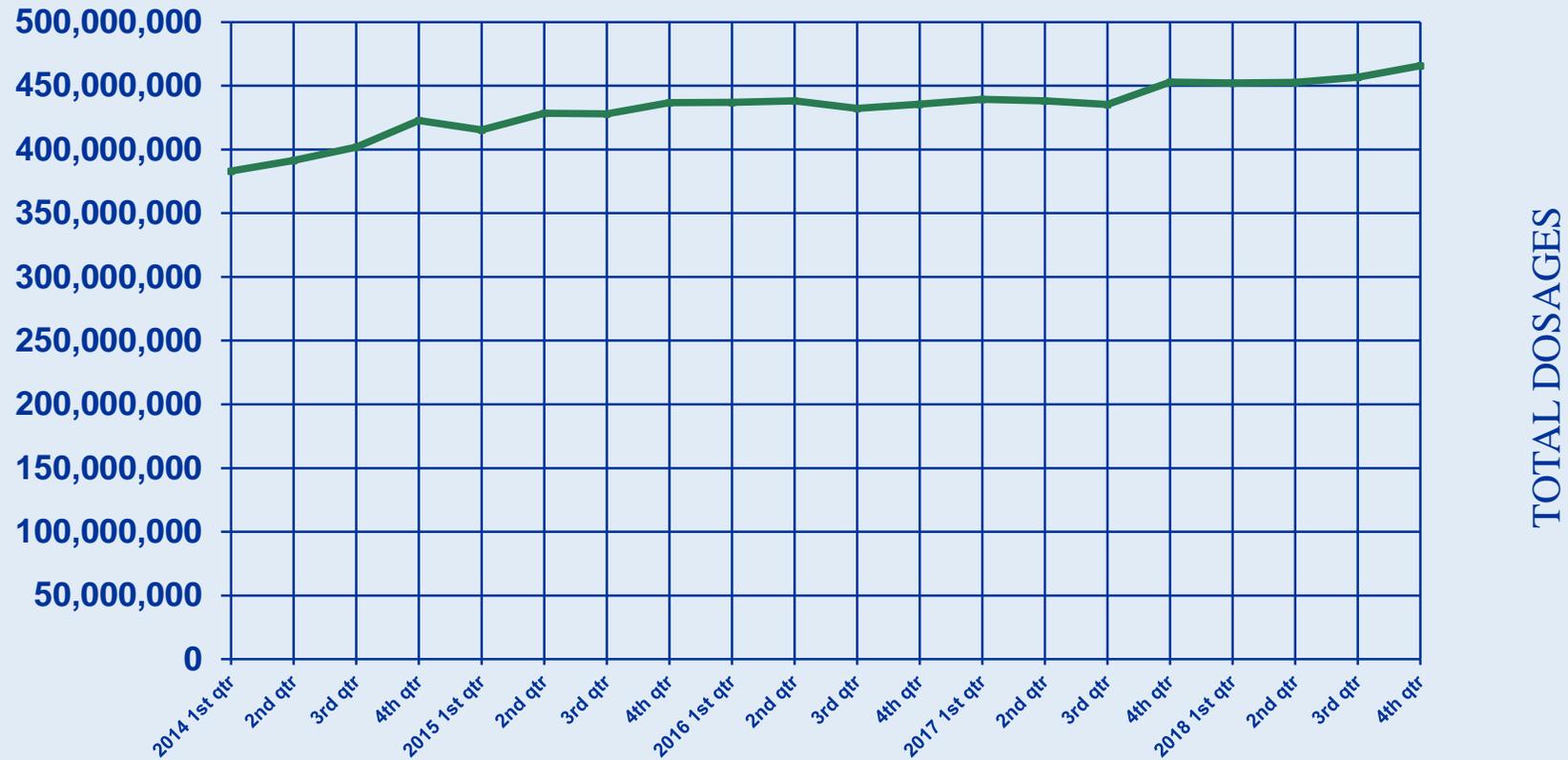
January – December 2018

RANK	STATE	TOTAL	RANK	STATE	TOTAL	RANK	STATE	TOTAL	RANK	STATE	TOTAL	RANK	STATE	TOTAL
1	HI	15,444	12	OR	916	23	VA	412	34	IL	170	45	KY	78
2	KS	10,236	13	OK	906	24	MO	355	35	RI	154	46	SD	74
3	MD	4,916	14	NV	879	25	ME	346	36	NM	151	47	NC	71
4	GA	2,808	15	AZ	849	26	NJ	342	37	OH	143	48	DE	56
5	CT	2,711	16	ID	825	27	CA	296	38	MT	142	49	TX	48
6	CO	2,623	17	AK	703	28	PA	294	39	MS	140	50	WV	5
7	WI	1,643	18	IA	685	29	MI	284	40	IN	131	51	AS	0
8	TN	1,366	19	NY	609	30	AR	216	41	MA	97	52	GU	0
9	NE	1,124	20	WY	463	31	FL	214	42	SC	90	53	PR	0
10	AL	1,065	21	ND	448	32	NH	198	43	UT	87	54	VI	0
11	MN	1,036	22	DC	432	33	WA	182	44	LA	86	55	VT	0

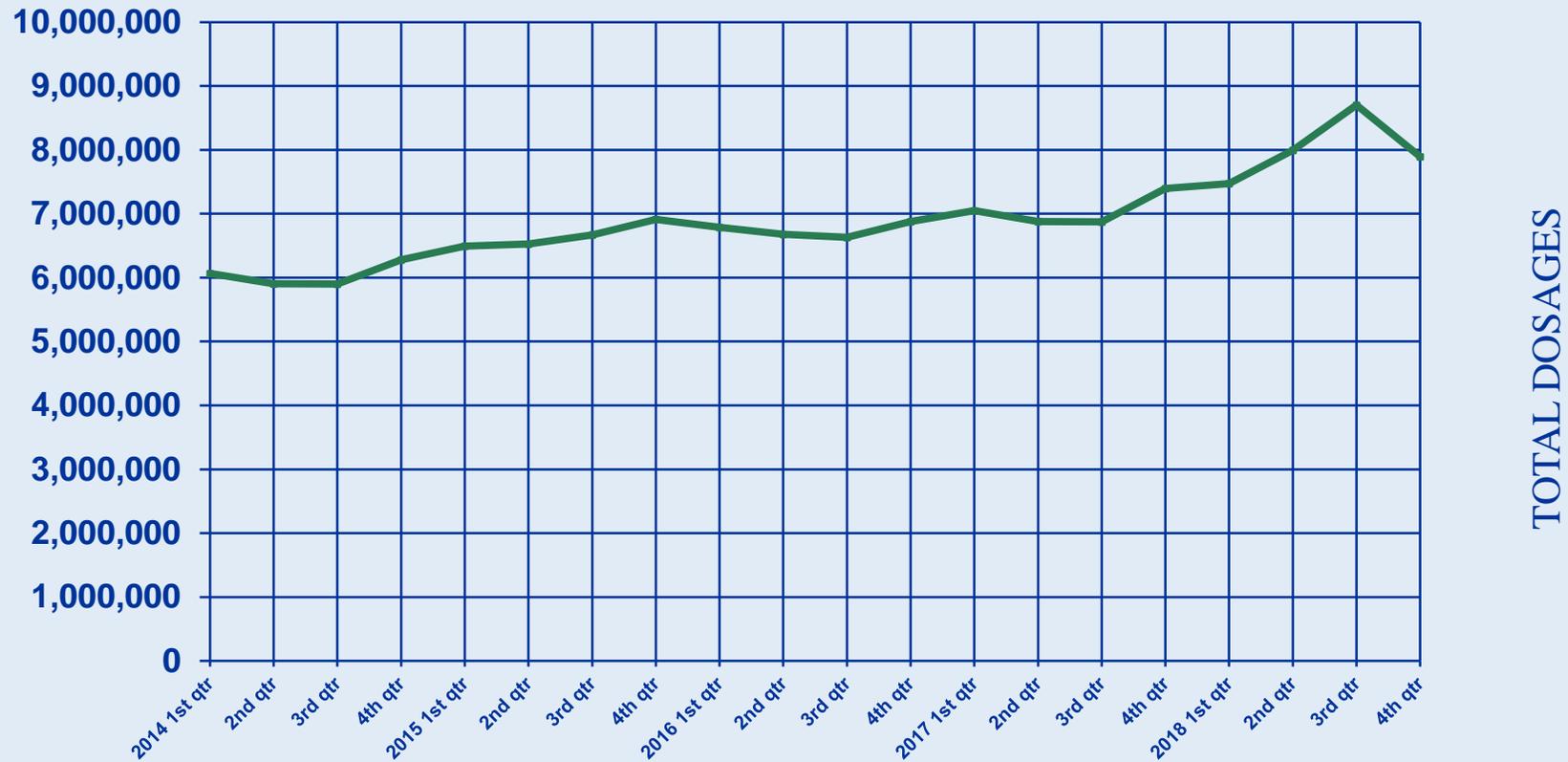
* *Business Activity – Retail Practitioners*

Source: Drug Enforcement Administration, Office of Diversion Control, Pharmaceutical Investigations Section, Targeting and Analysis Unit
Most current ARCOS information as of 08/27/2016

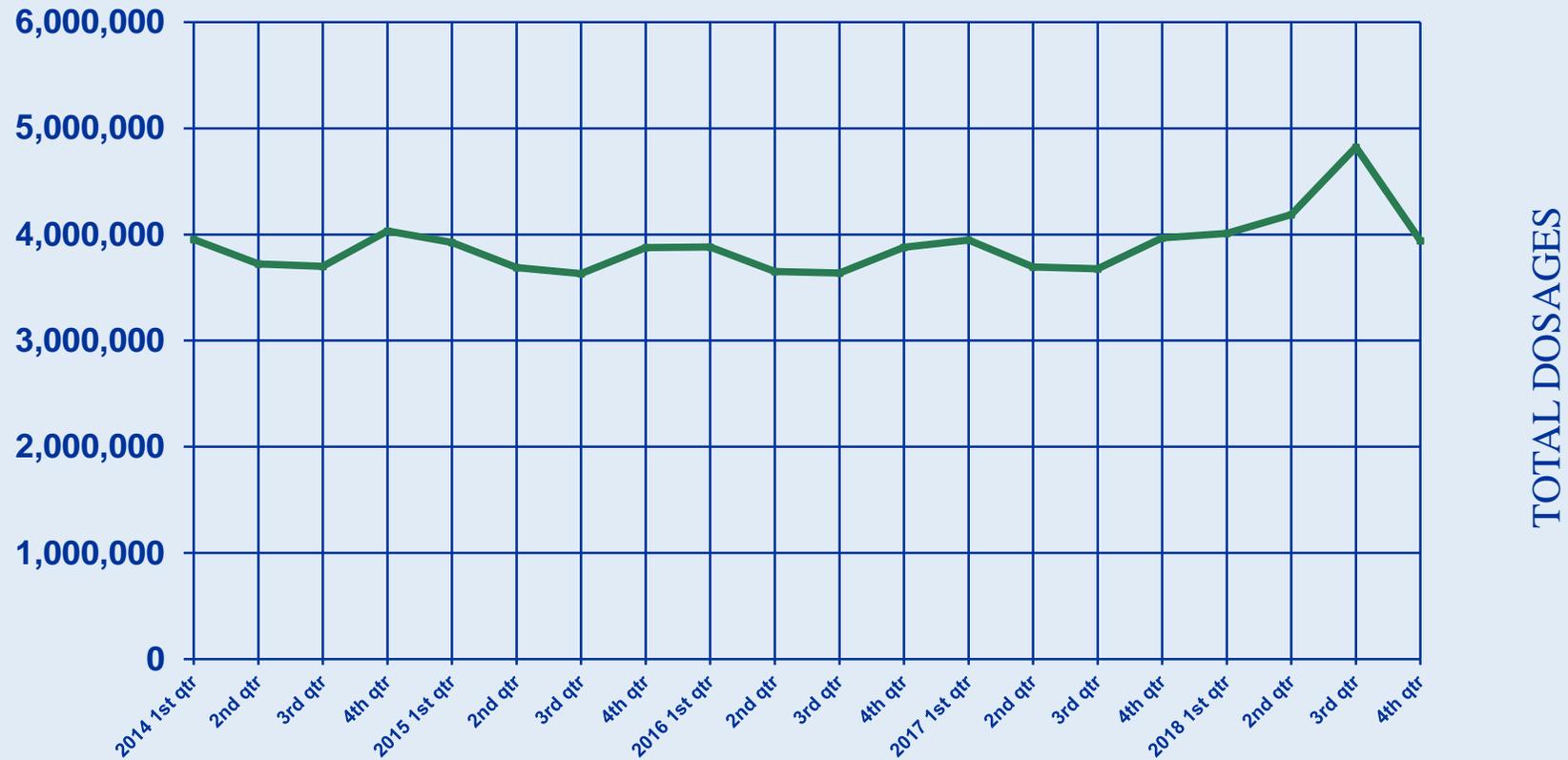
Nationwide Amphetamines Distribution 2014 - 2018



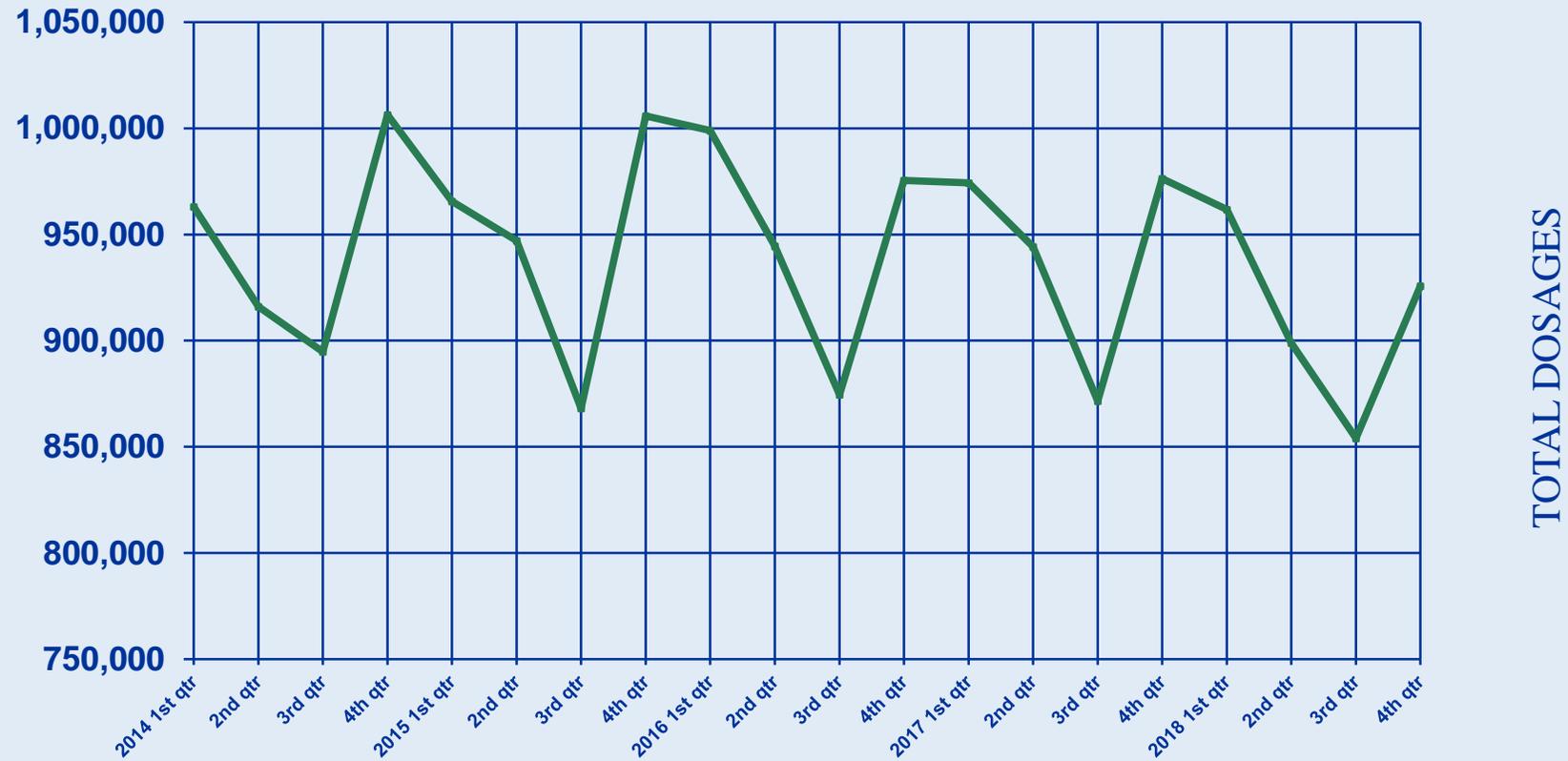
Arizona Amphetamines Distribution 2014 - 2018



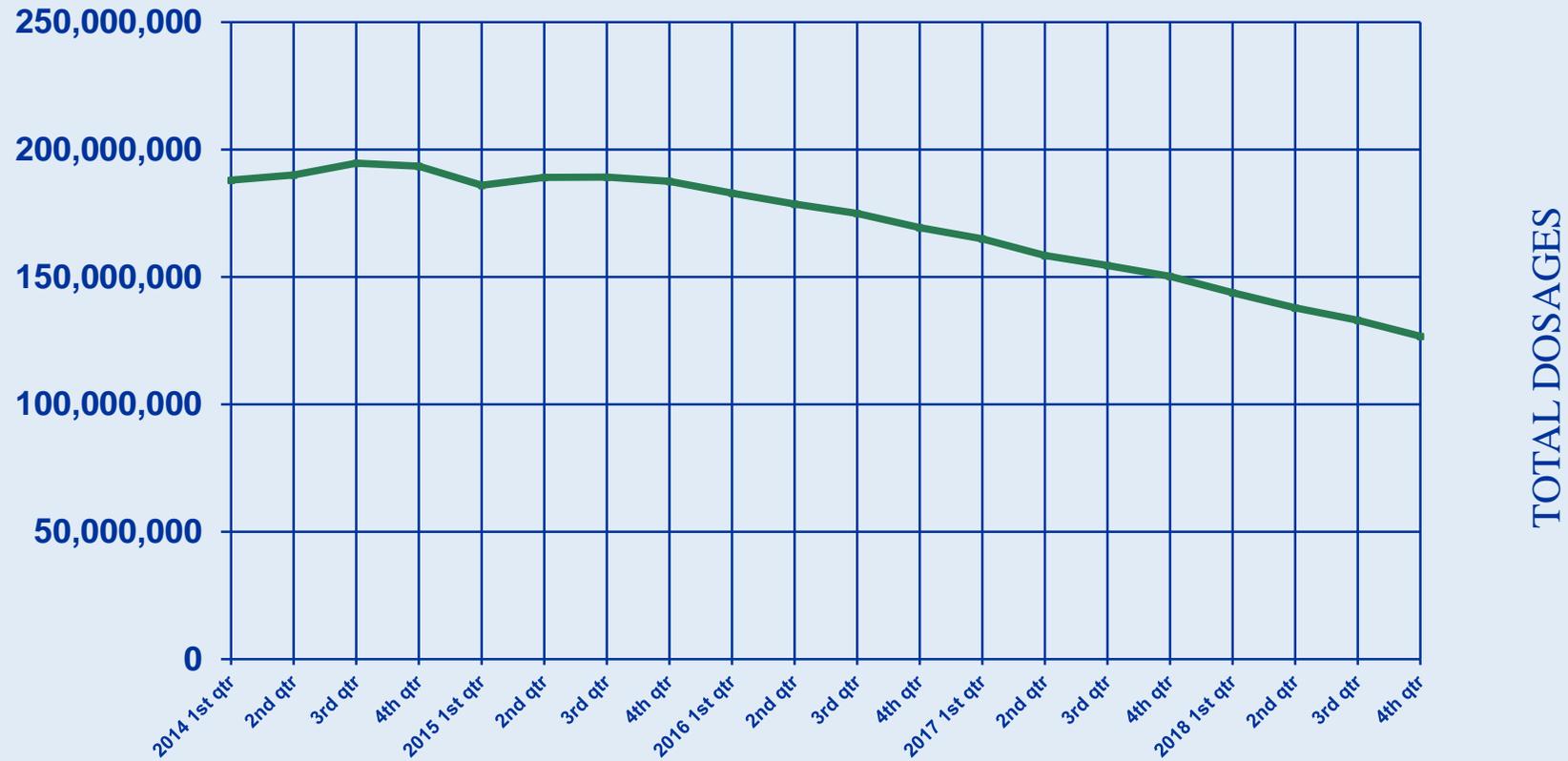
Nationwide Methylphenidate Distribution 2014 - 2018



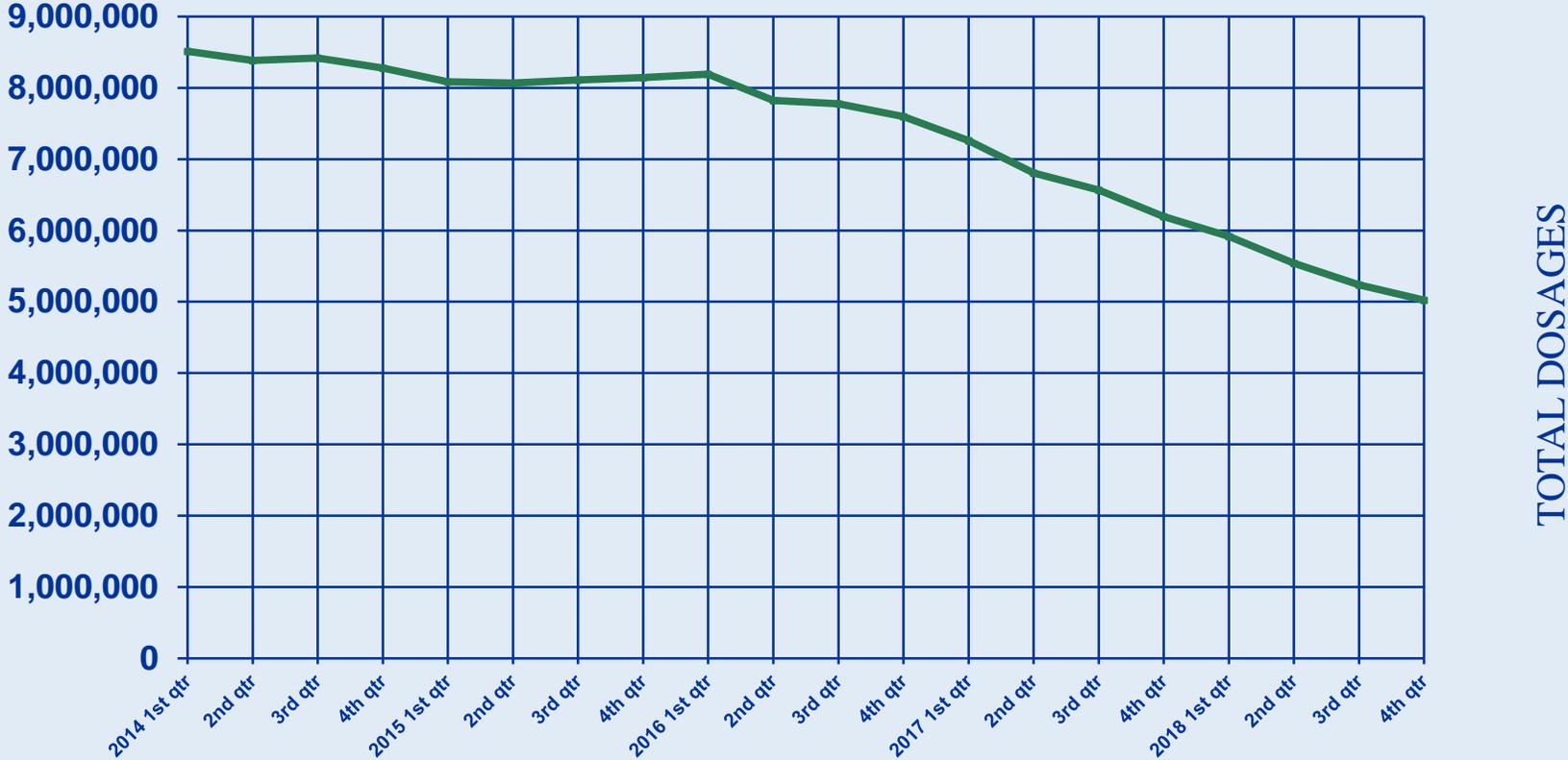
Arizona Methylphenidate Distribution 2014 - 2018



Nationwide Morphine Distribution 2014 - 2018



Arizona Morphine Distribution 2014 - 2018





Drug Trends



Heroin and Fentanyl



Heroin

- **The raw material (opium) to manufacture heroin comes from the poppy plant.**
- **The raw material (opium) comes from outside of the U.S. – Asia, Pakistan, Afghanistan.**
- **Heroin comes in through different drug routes – primarily through Mexico.**
- **Heroin use has increased in the last 5 years.**



Fentanyl

- **Fentanyl is a synthetic opioid.**
- **Fentanyl is very powerful (50-100 times more potent than heroin).**
- **Dealers are combining Fentanyl with Heroin, pills, marijuana, counterfeit pills, etc.**
- **Carfentanil (100 times more potent than Fentanyl).**
- **Carfentanil is stolen or diverted from legitimate channels.**



Fentanyl

- Is purchased from China and shipped directly to the United States or smuggled through Mexico.
- May 2015 Chinese Customs seized 46 Kilos of Fentanyl and 26 Kilos of acetyl fentanyl.
- 6 customs officers became ill
- 1 in a coma after handling.





Fentanyl

- Produced in clandestine labs in the United States.
- DEA LA Field Division
- Residential location
- 3 pill presses
- Powder mixing equipment
- Ventilation equipment





Fentanyl





Fentanyl Dangers to Practitioners

- **Be cautious when inventorying personal items in ED or the hospital.**
- **Be cautious when touching patients.**
- **Be cautious when going through a patient's personal items.**
- **Don't **ever** take back a patient's medications.**



From Pills to Heroin





From Pills to Heroin

- 75% of heroin users switched after first using controlled substance prescription pain relievers.
- Heroin is much cheaper than prescription drugs.
 - Deck: 1 small bag of heroin (\$8 to \$10)
 - Bundle: 10 bags of heroin

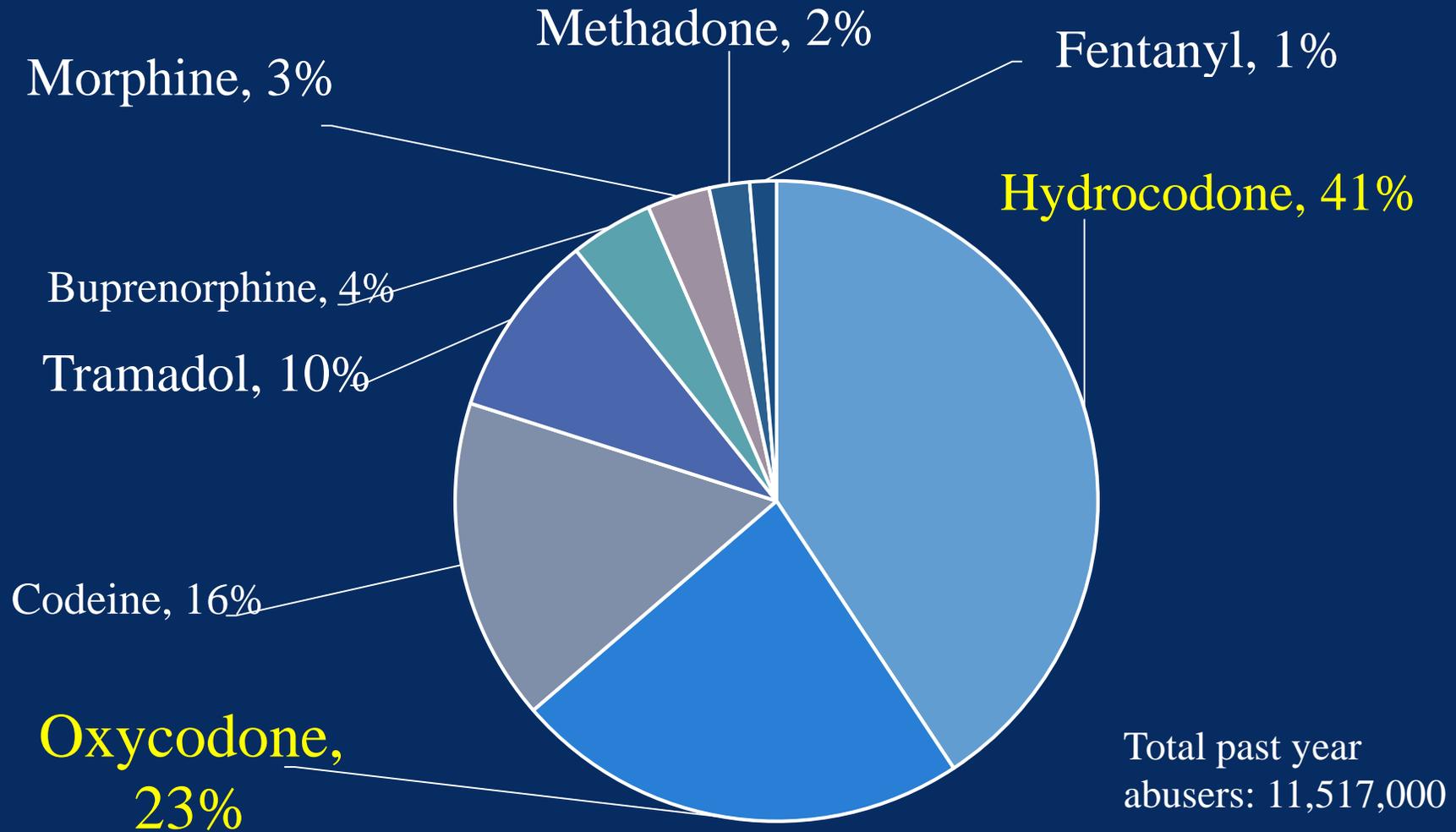


Prescription Drug Abuse Trends



Prescription Pain Reliever Misuse

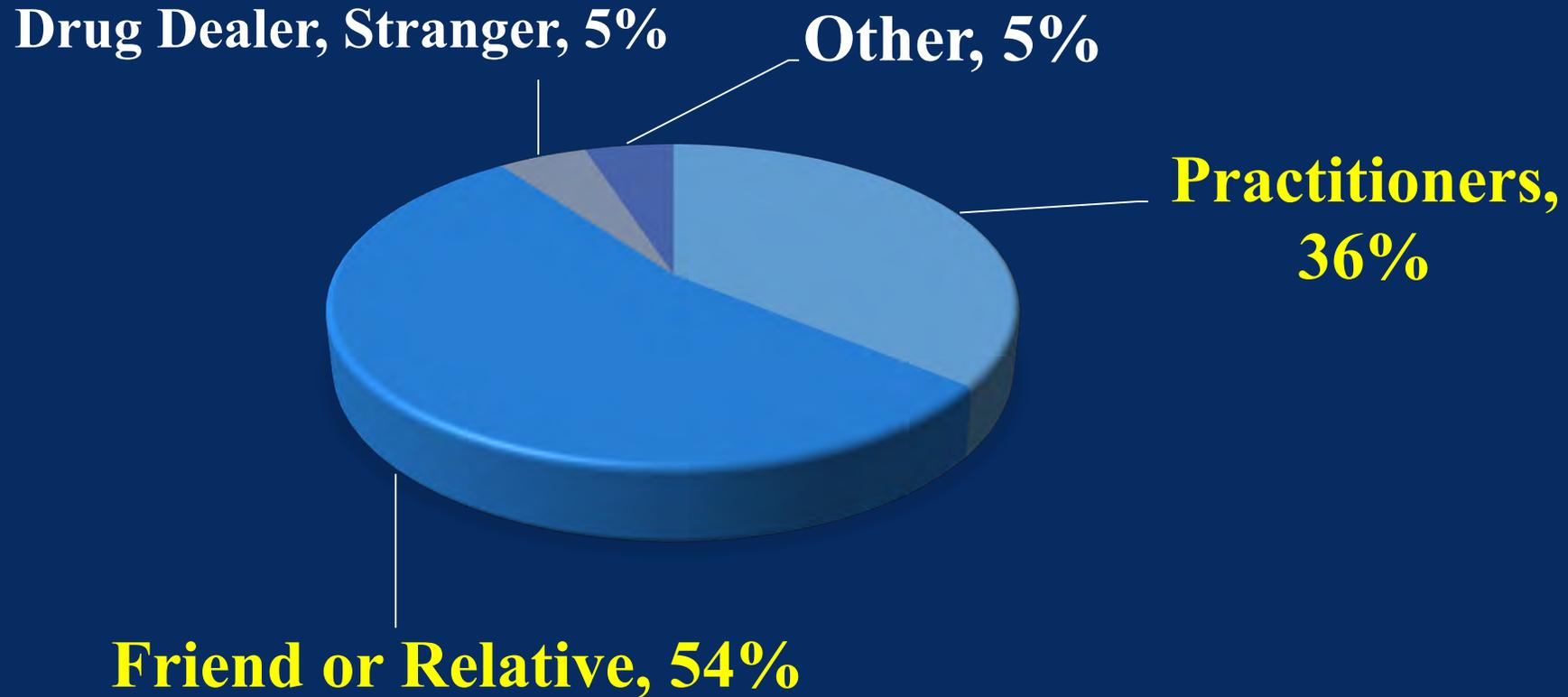
(Age 12 and Older)(2016)



Source: National Survey On Drug Use and Health (2016)



Where Do They Come From?



Source: Department of Health and Human Services



Many Patients Share Prescribed Controlled Substances

University of Pennsylvania Dental School Study:

- ***More than half of the narcotics prescribed for wisdom teeth removal go unused...findings suggest that more than 100 million pills prescribed go unused... leaving the door open for possible misuse or abuse.**

Source: <https://www.pennmedicine.org/news/news-releases/2016/september/100-million-prescription-opioid>
https://www.nlm.nih.gov/medlineplus/news/fullstory_159336.html



Many Patients Share Prescribed Controlled Substances

John Hopkins Study:

- +60% had leftover opioids they hung on for “future use”
- 20% shared their medications
- 8% likely will share w/ friend
- 14% likely will share w/ relative
- >10% securely lock their medication



Many Patients Share Prescribed Controlled Substances

John Hopkins Study:

- The study further explored adult attitudes towards controlled substances and found:
- 73 percent of adults agreed that children can overdose on opioids more easily than adults.

Source: <https://www.pennmedicine.org/news/news-releases/2016/september/100-million-prescription-opioid>
https://www.nlm.nih.gov/medlineplus/news/fullstory_159336.html



Many Patients Share Prescribed Controlled Substances

John Hopkins Study:

- Yet found that 13% of the respondents “worry” about their children accessing their opioid medications.
- With parents of older children reporting that they were **significantly less** likely to worry about children accessing medications than parents of younger children.

Source: <https://www.pennmedicine.org/news/news-releases/2016/september/100-million-prescription-opioid>
https://www.nlm.nih.gov/medlineplus/news/fullstory_159336.html



Violence





Violence Associated With Opiates

Communities undergo:

- **Drug related crimes**
 - a. **Robberies**
 - b. **Burglaries/break ins**
 - c. **Drug thefts**

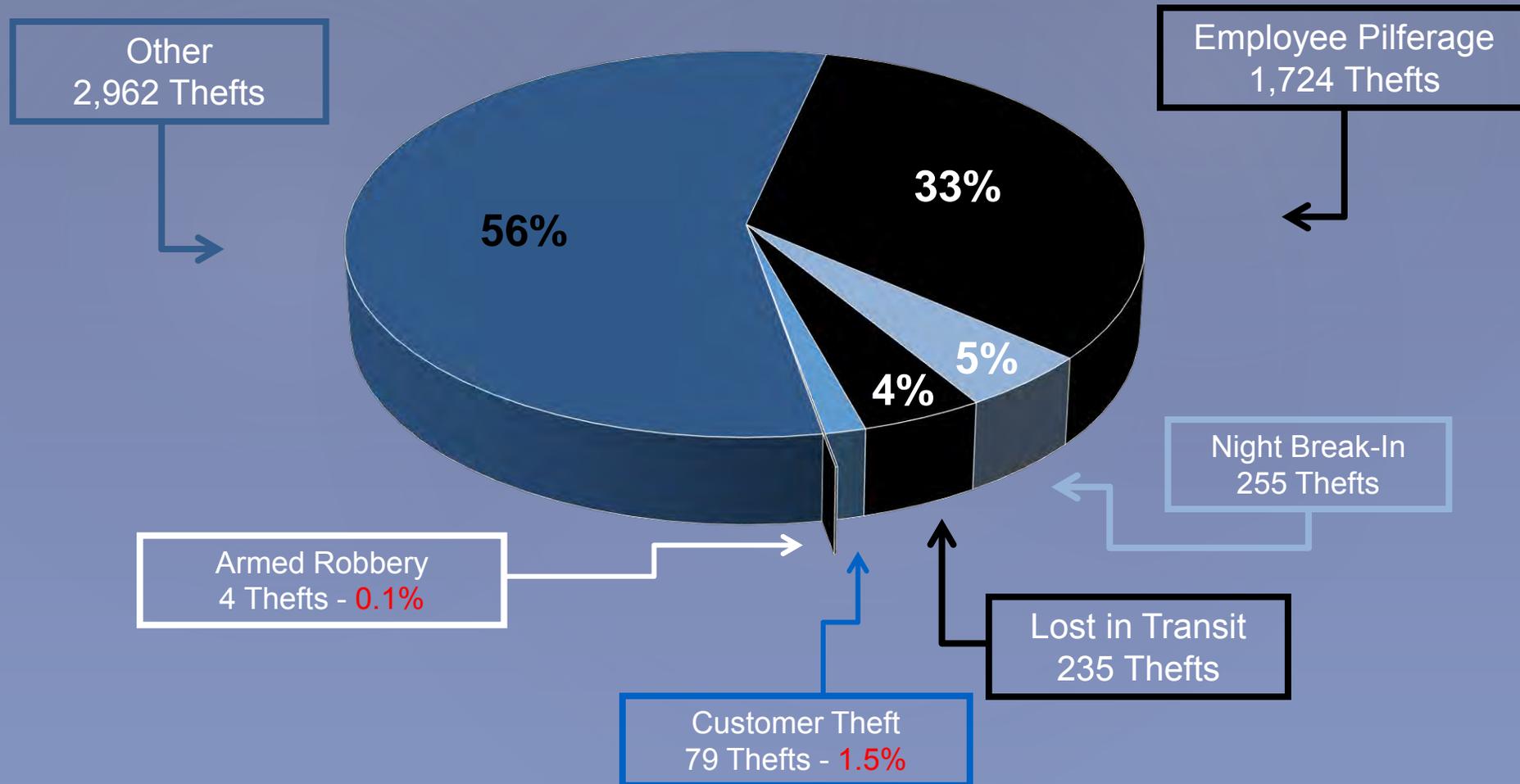
- **Abuse and neglect of children**

- **Domestic violence in the home**

- **Increase of arrests**

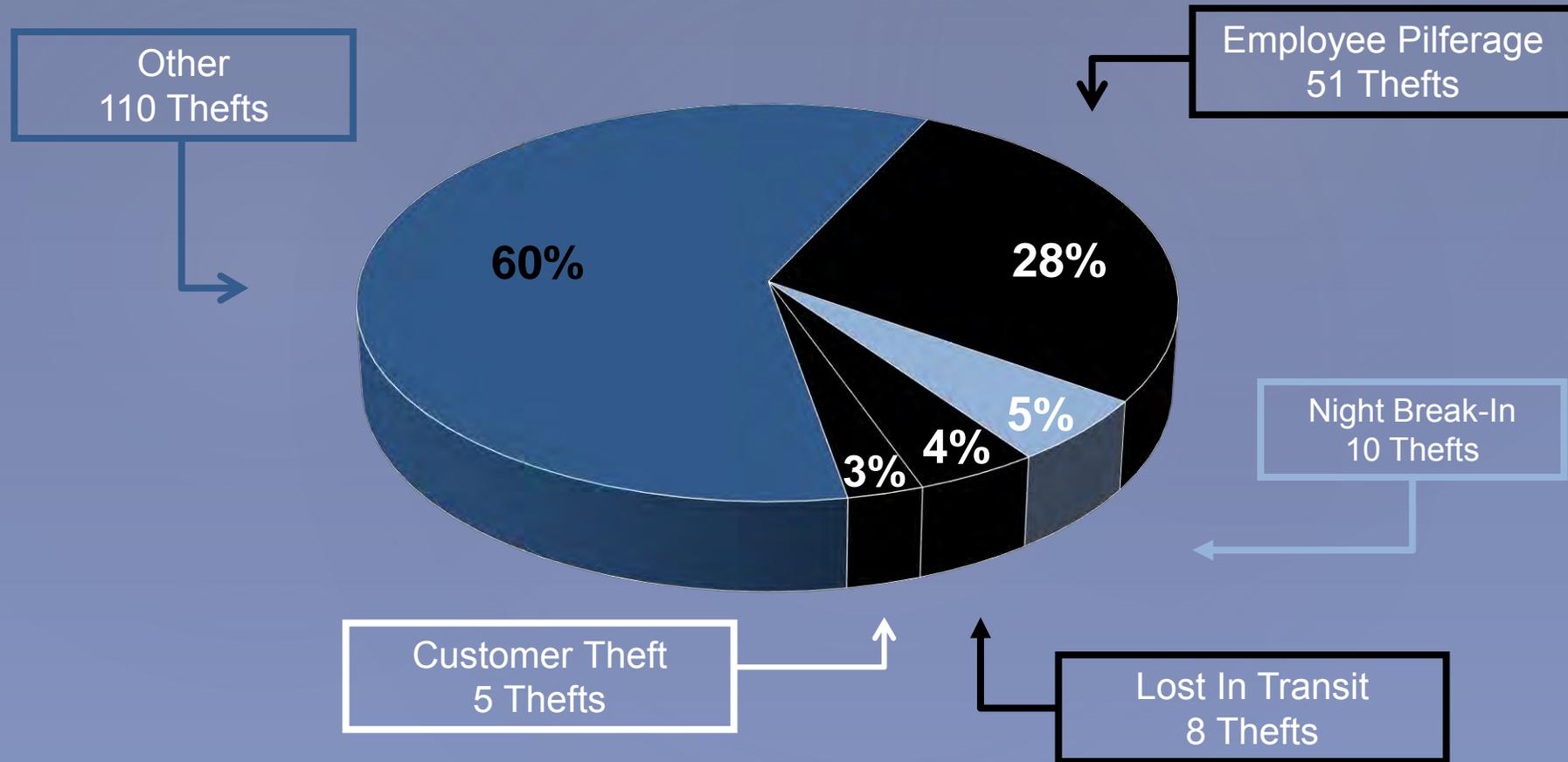
Nationwide Practitioner Thefts

January 1, 2014 – December 31, 2018



Arizona Practitioner Thefts

January 1, 2014 – December 31, 2018





CDC Guidelines

Prescribing Opioids for Chronic Pain

Clinical Reminders:

- **Opioids are not first-line or routine therapy for chronic pain.**
- **Establish and measure goals for pain and function.**
- **Discuss benefits, risks and availability of non opioid therapies with patients.**

Source: CDC Morbidity & Mortality Weekly Report CDC
Guideline for Prescribing Opioids for Chronic Pain —
United States, 2016, March 15, 2016
www.cdc.gov/drugoverdose/prescribing/guideline.html



CDC Guidelines

Prescribing Opioids for Chronic Pain

Clinical Reminders:

- **Use immediate-release opioids when starting.**
- **Start low and go slow.**
- **When opioids are needed for acute pain, prescribe no more than needed.**



CDC Guidelines

Prescribing Opioids for Chronic Pain

Clinical Reminders:

- **Do not prescribe ER/LA opioids for acute pain.**
- **Follow-up and re-evaluate risk of harm; reduce dose or taper and discontinue if needed.**
- **Evaluate risk factors for opioid-related harms.**



CDC Guidelines

Prescribing Opioids for Chronic Pain

Clinical Reminders:

- **Check PDMP for higher dosages and prescriptions from other providers.**
- **Use urine drug testing to identify prescribed substances and undisclosed use.**
- **Avoid concurrent benzodiazepine and opioid prescribing.**
- **Arrange treatment for opioid use disorder if needed.**



Survey of Long-Term Painkiller Users

- Majority say their doctor talked about possibility of addiction or dependence – **61% say there was no discussion about plan to get them off.**
- Majority say they used the drugs to relieve pain. Other major reasons for taking them:
 - 20% - “for fun or get high”
 - 14% - “to deal with day-to-day stress”
 - 10% - “to relax or relieve tension”



Survey of Long-Term Painkiller Users

- **Other Findings:**
 - **34% admit being dependent or addicted.**
 - **17% have taken painkillers that were not specifically prescribed for them.**
 - **14% have given their painkillers to a family member or friend.**
 - **20% know or suspect someone was using, taking or selling their painkillers.**



Post Questions

- 1. Which country, per million population, has the largest amount of drug induced deaths ages 15-64?**
 - A. Sweden**
 - B. Germany**
 - C. United States**
 - D. Russia**
 - E. China**



Post Questions

2. Where does Arizona rate in the United States in the amount of oxycodone dispensed by pharmacies?

A. 15th

B. 48th

C. 3rd

D. 21st



Post Questions

3. What percentage of the world's hydrocodone production does the United States consume?

- A. Less than 10%**
- B. 34%**
- C. 50%**
- D. More than 70%**



Post Questions

- 4. What is the most misused prescription controlled substance pain reliever in the United States?**
- A. Oxycodone**
 - B. Morphine**
 - C. Hydrocodone**
 - D. Codeine**



Post Questions

- 5. What percent of heroin users began their addictions with prescribed pain relievers?**
- A. 15%**
 - B. 40%**
 - C. 75%**
 - D. 90%**
 - E. 99%**



*Thank-you for your time
and attention !*

