Health Quality Subcommittee

Wednesday, September 16, 2015
10:30 AM - 12:30 PM
306 HOB

Steve Crisafulli
Speaker

Cary Pigman
Chair

Committee Meeting Notice

HOUSE OF REPRESENTATIVES

Health Quality Subcommittee

Start Date and Time:	Wednesday, September 16, 2015 10:30 am
End Date and Time:	Wednesday, September 16, 2015 12:30 pm
Location:	306 HOB
Duration:	2.00 hrs

Update by the Department of Health on the Impact of Regulatory Reform Relating to Prescription Drugs

NOTICE FINALIZED on 09/09/2015 15:38 by Iseminger.Bobbye

Presentation by
Department of Health

Strengthening Healthcare Provider Oversight and Accountability
Florida's Experience

Lucy C. Gee, M.S., Director
Medical Quality Assurance
Department of Health
September 16, 2015

Outline

- Overview of HB 7095 (2011)
- Results
  - Pain Management Clinics (PMC)
  - Prescribers
  - Dispensers
  - Patients

HB 7095 (2011) Overview

- Increased penalties for violations of controlled substance prescribing requirements
- Counterfeit-proof prescription pads
- Physicians and dentists to register on profile if prescribe controlled substances for pain
- Standards for controlled substance prescribing

HB 7095 (2011) Overview

- Pain management clinic registration
  - Physical examination
  - Designated physician
  - Exemptions from registration

- Prohibition on physician dispensing of controlled substance Schedules II and III

HB 7095 (2011) Overview

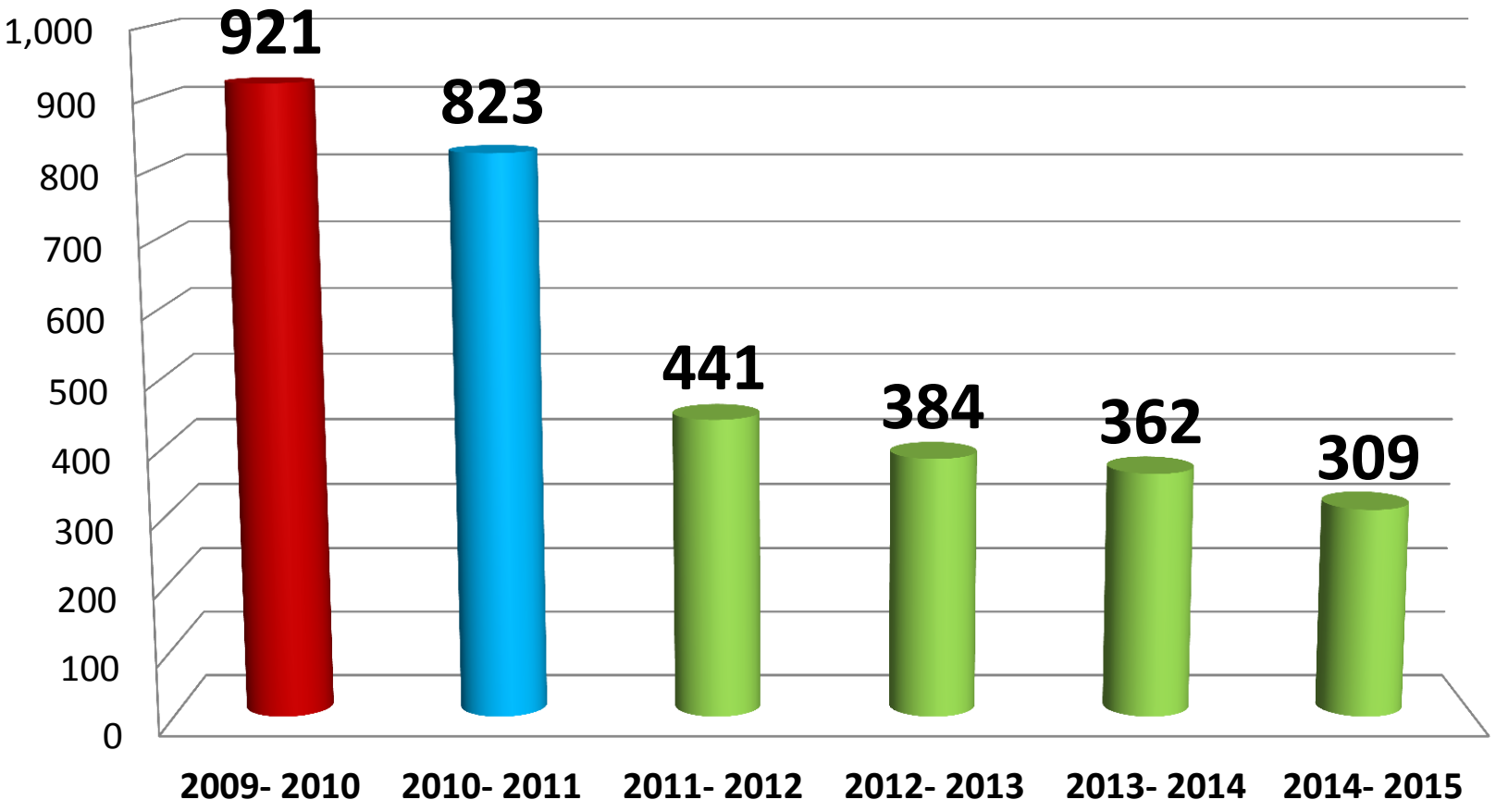
- Public Health Emergency declared July 1, 2011
  - July 5 law enforcement and department investigators quarantined 105,579 drugs

- Pharmacies required to re-register with criminal background screening

HB 7095 (2011) Overview

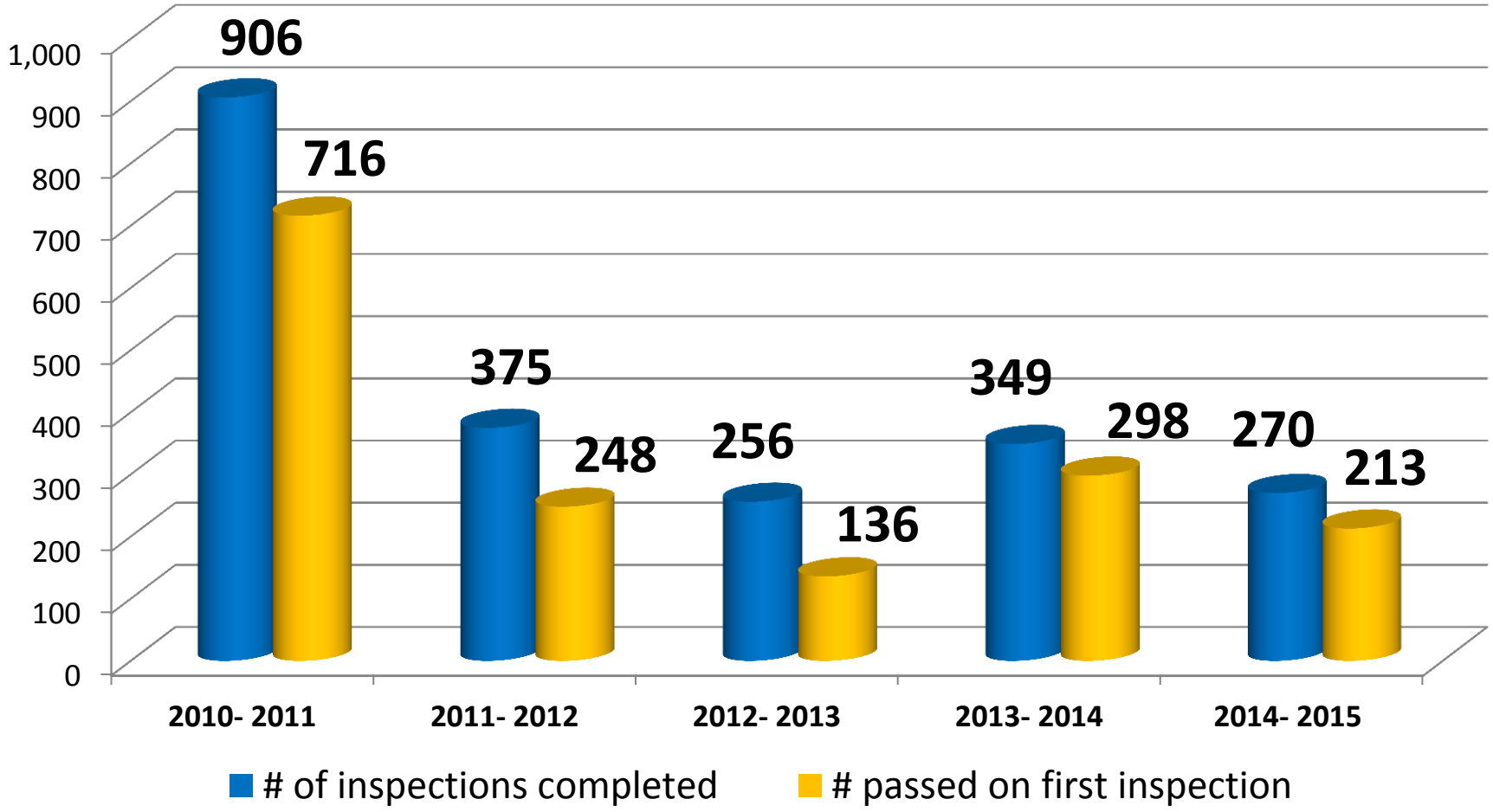
- Days to report dispensing information to PDMP decreased from 15 days to 7
- Changes to Chapter 499 F.S.-Drug, Cosmetic and Household Products
  - Increased criminal acts
  - Wholesalers required to report distribution of controlled substances to database
  - Wholesalers required to credential physicians and pharmacies

Pain Management Clinics Registered



Source: 9/1/ 2015 HB7095 Toolbox (dxt701)

Pain Management Clinic Inspections



Source: 9/1/2015 HB7095 Toolbox (dxt701)

Prescriber Registration

- **Chronic Nonmalignant Pain (CNMP)**

  Pain unrelated to cancer or rheumatoid arthritis that persists for more than 90 days after injury/surgery

- **Required Registration to Prescribe CNMP**

  Health Care Practitioners who prescribe controlled substances for the treatment of **CNMP**

  - Medical Doctors
  - Dentists
  - Osteopathic Physicians
  - Podiatrists

Prescribers
Dispensing Practitioners

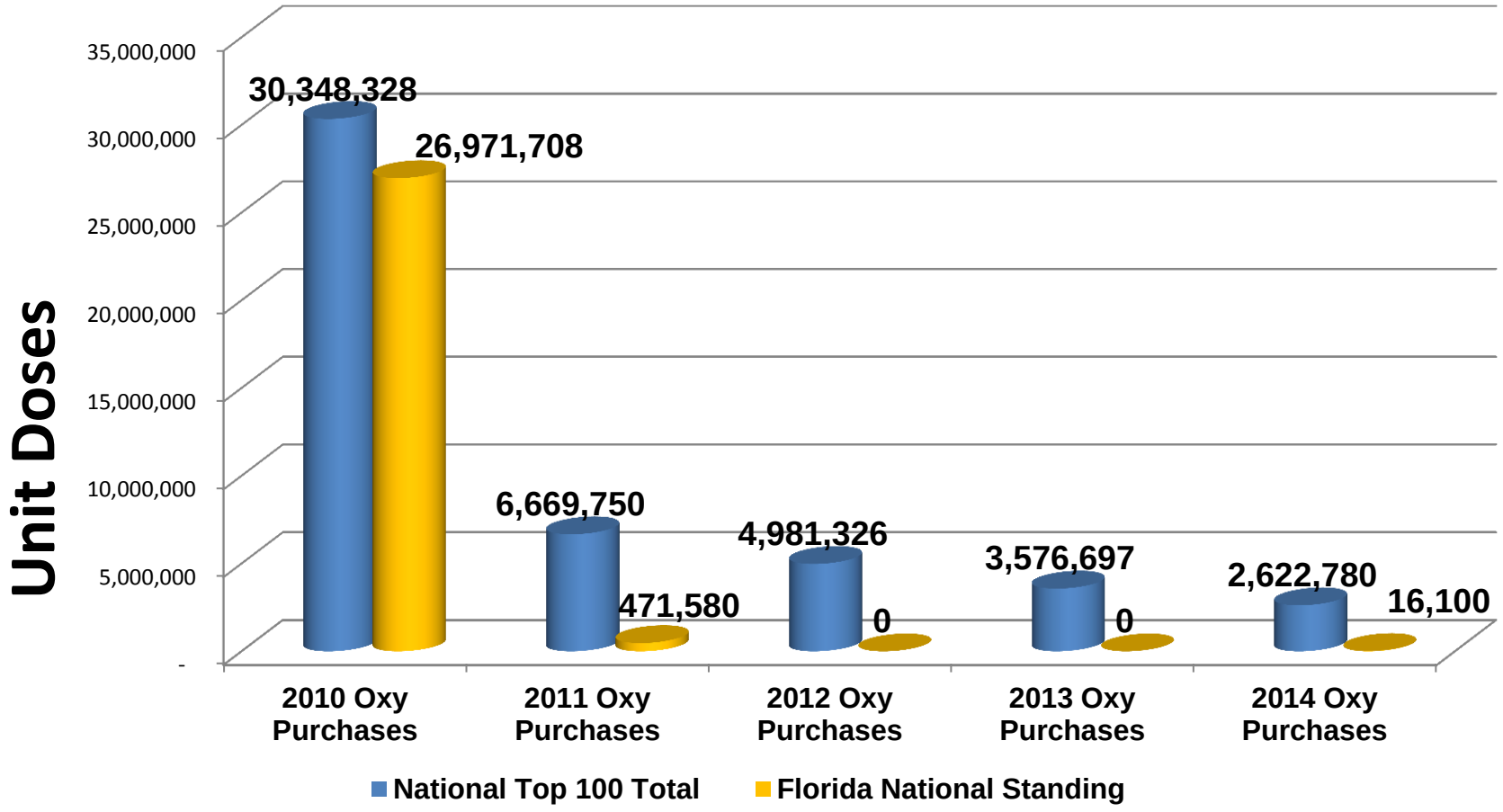
- **Prior to 2011**:

  Registered Dispensing Practitioners could dispense **any medicinal drugs** that they were legally permitted to prescribe, **including Schedule II and III** controlled substances.

- **As of July 2011:**

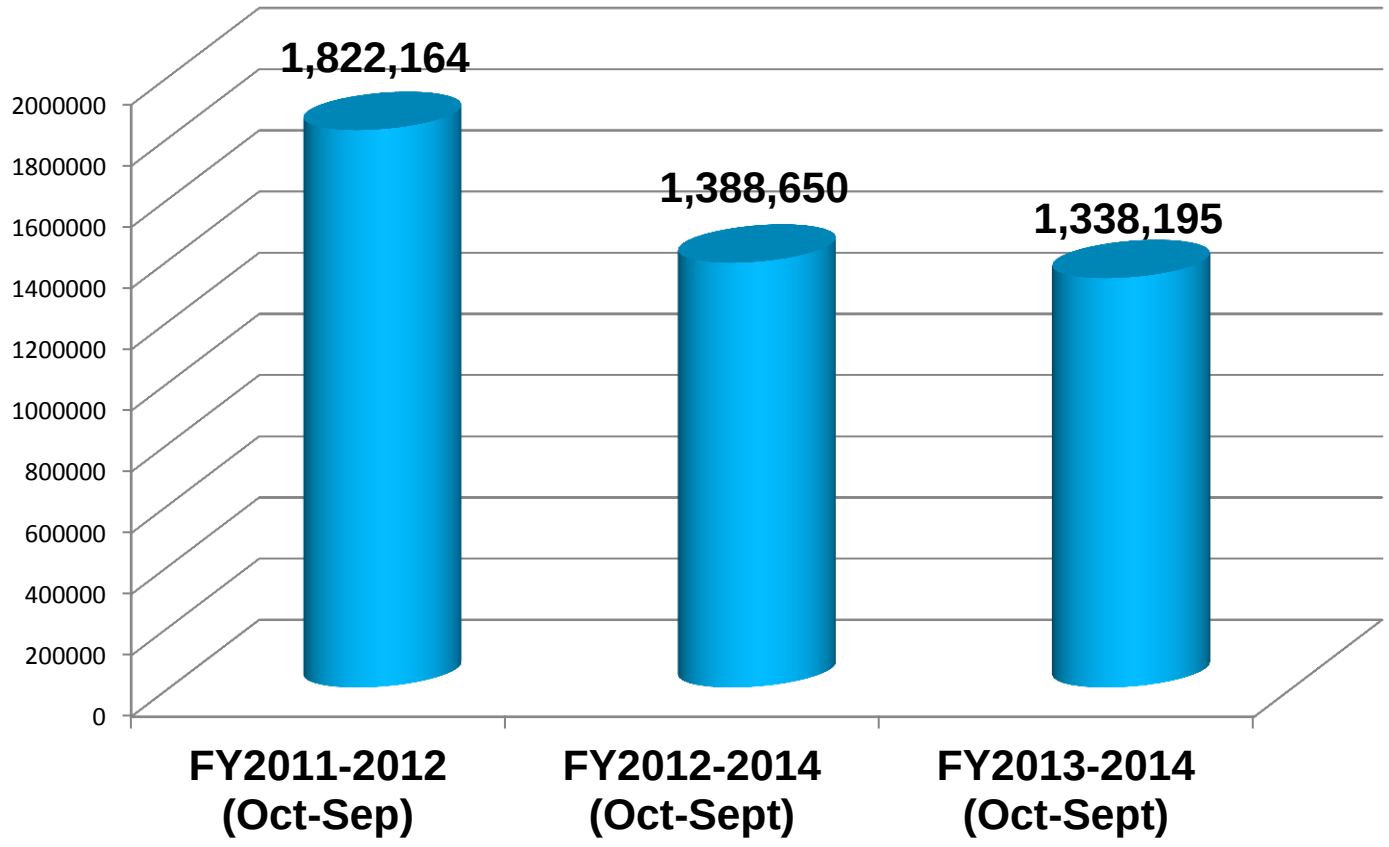
  Registered Dispensing Practitioners are **prohibited** from dispensing **Schedule II or Schedule III** controlled substances.

Top 100 Physician Purchasers of Oxycodone Nationally



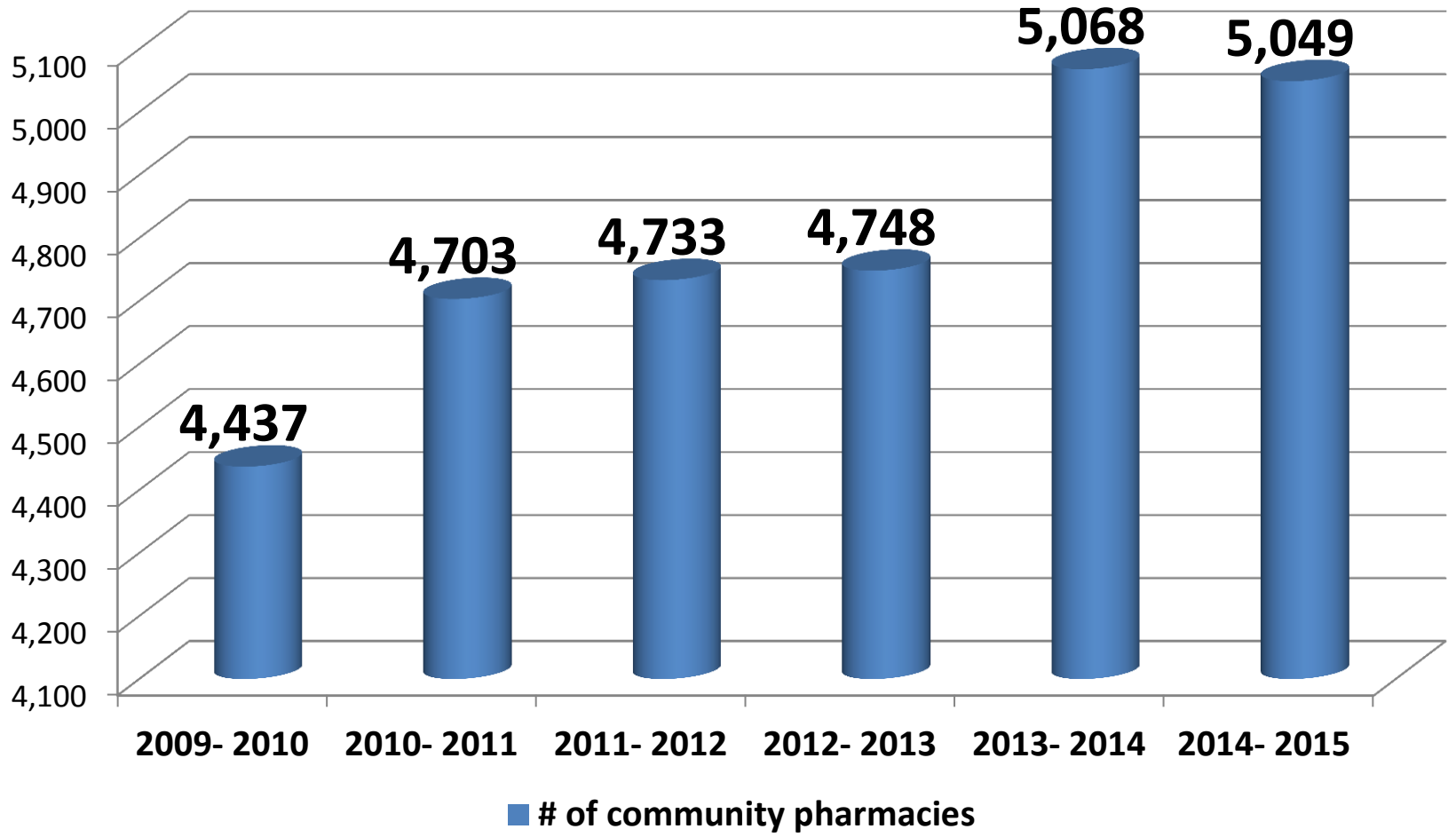
Source: ARCOS DEA Registration

Number of Oxycodone Prescriptions Dispensed, October, 2011 – September 2014



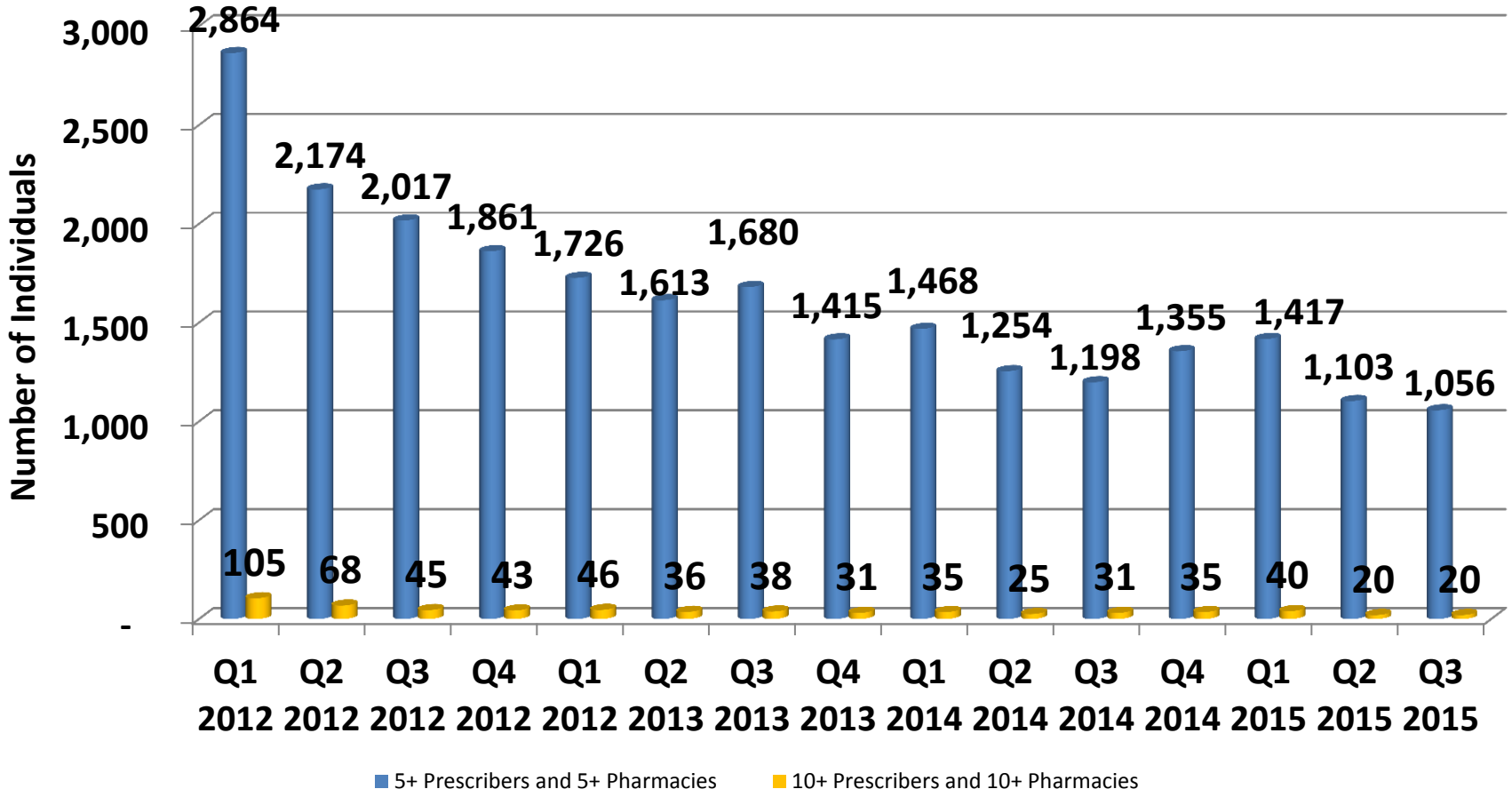
Source: Prescription Drug Monitoring Program as of June 2015.

Dispensers
Community Pharmacies



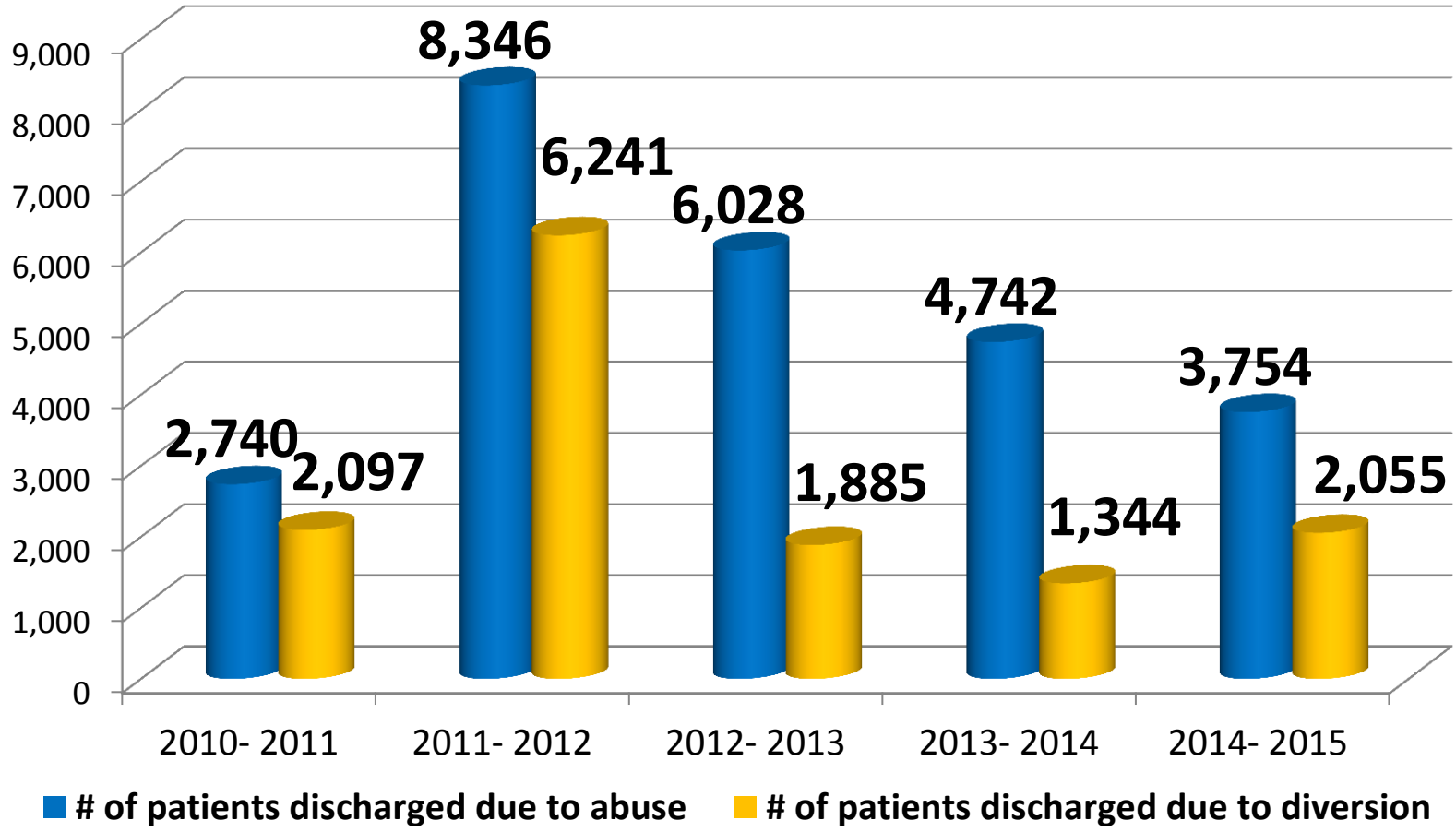
Source: 9/1/2015 HB7095 Toolbox (dxt701)

63% Decrease in Doctor Shopping



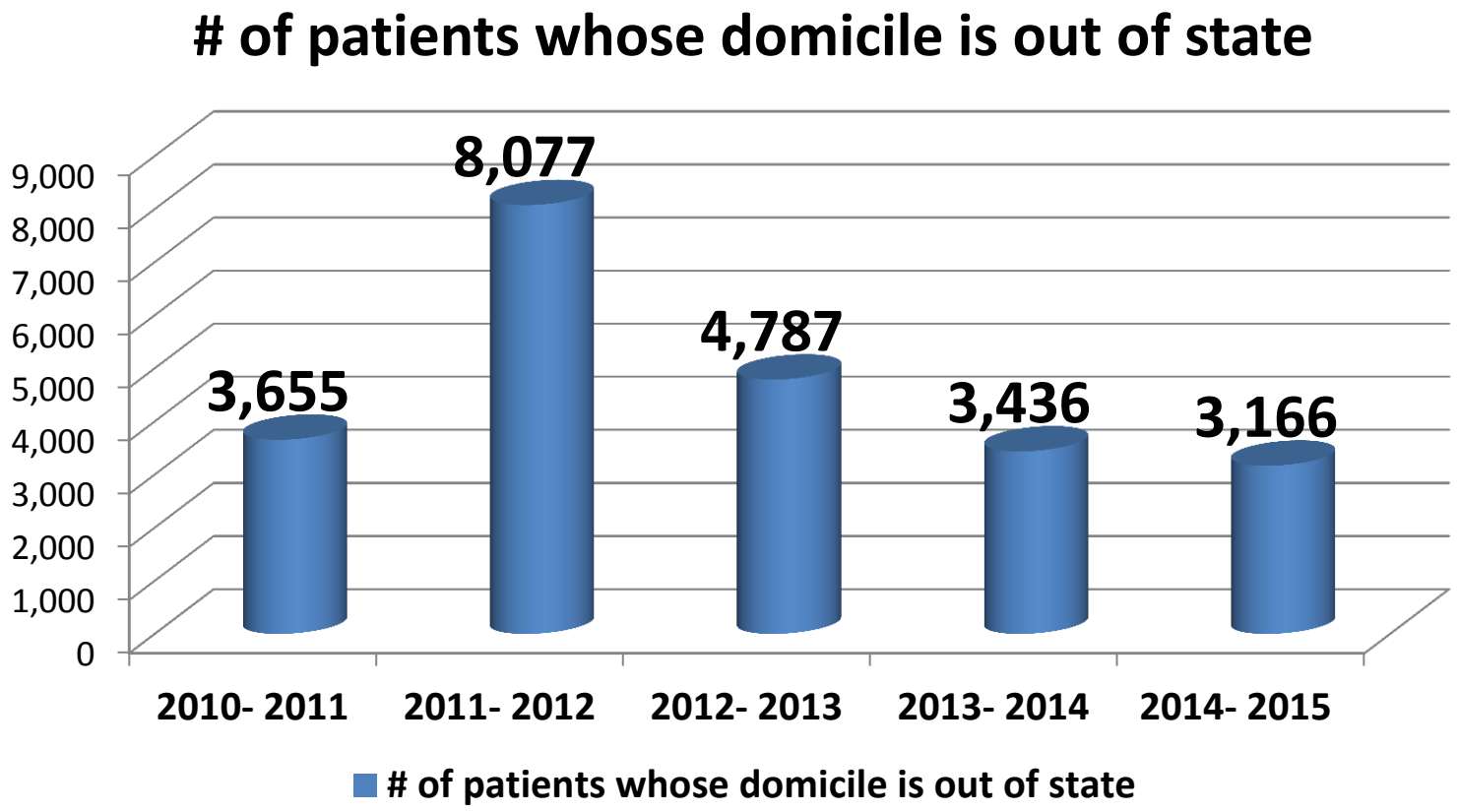
Source: Prescription Drug Monitoring Program as of June 2015.

Pain Management Clinic Abuse or Diversion Discharges



Source: 9/1/2015 HB7095 Toolbox (dxt701)

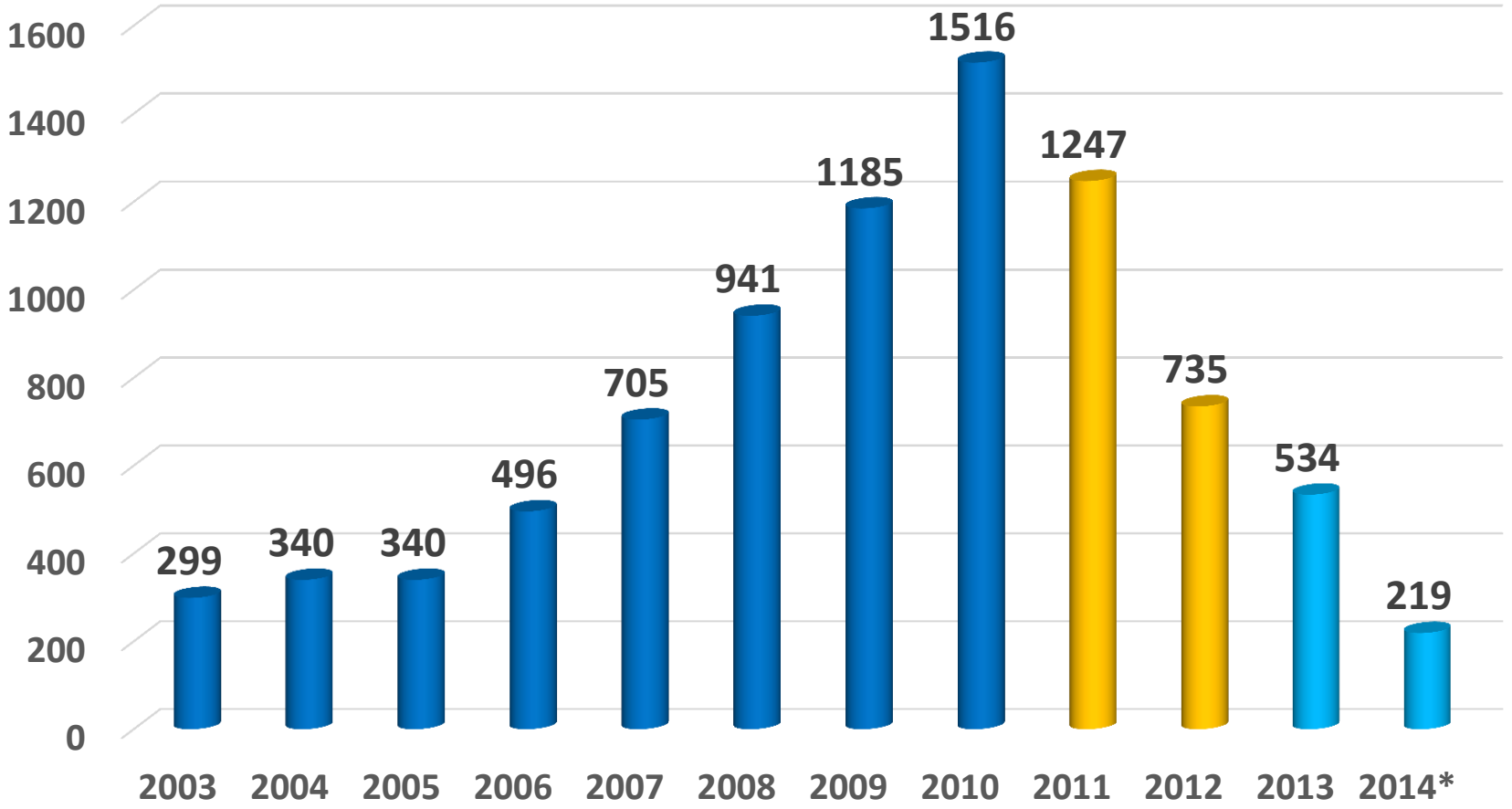
Pain Management Clinic "Oxycontin Express" Derailed



*Figures from Jan-June 2011 data was required at that time only from Osteopathic Physicians

Source: 9/1/2015 HB7095 Toolbox (dxt701)

65% Decrease in Oxycodone Deaths in Florida Between 2010-2013



Source: *Drugs Identified in Deceased Persons by Florida Medical Examiners 2014 Interim Report*
** Covers the first six months of 2014*

Board of Pharmacy Controlled Substance Standards Committee

- Created in April 2015
- Members represent pharmacists, pharmacies, physicians and wholesalers that are impacted by this issue.
- Two meetings since April and a third scheduled for October 5th.
- Special subcommittee to work on Board of Pharmacy Rule -- the Standards for Dispensing Controlled Substances for the Treatment of Pain.

Legislative Regulatory Tools

- Pain management clinic registration
- Prohibitions on dispensing
- Practice standards for prescribing
- Implementation of PDMP
- Counterfeit-proof prescription pads
- Re-permitting of pharmacies

Summary Results

- **66%** decrease in pain management clinics

- **79%** pain management clinics pass stricter standards on the first inspection

Summary Results

- Florida Top 100 Oxycodone purchases by physicians reduced from >26 million to <17,000
- **55%** decrease in patients discharged for drug abuse
- **67%** decrease in patients discharged for drug diversion

Summary Results

- **57%** decrease in out of state patients
- **63%** decrease in doctor shopping ≥5

Summary Results

65% decrease in Oxycodone deaths in Florida.

Source: Drugs Identified in Deceased Persons by Florida Medical Examiners 2013 Report

Questions?

Lucy C. Gee, M.S., Director
Medical Quality Assurance
Department of Health
Lucy.gee@flhealth.gov
850-245-4224

Supplemental Material

SUMMARY

Rutkow, L., Chang, H., Daubresse, M., Webster, D.W., Stuart, E.A., Alexander, G. August 17, 2015. Effect of Florida's Prescription Drug Monitoring Program and Pill Mill Laws on Opioid Prescribing and Use. *JAMA Intern Med.* doi:10.1001/jamainternmed.2015.3931.

- Dispensing statistics from Georgia, the control state without comprehensive prescription drug regulation or a prescription drug monitoring program (PDMP), were compared to Florida's dispensing statistics during pre-implementation, initial implementation, and then post-implementation of Florida's comprehensive prescription drug regulatory reforms and the PDMP (July 2010 through September 2012).
- Findings and conclusions:
    - Most prescriptions filled by chain pharmacies (77.4%)
    - Total opioid volume, mean morphine milligram equivalent (MME) per transaction, and mean days' supply per transaction were higher in Florida than Georgia during the pre-implementation period.
    - From pre-implementation to the post-implementation period:
        - Total opioid volume decreased approximately 4% in Florida and 2.3% in Georgia.
        - Mean MME per transaction decreased 5.7% in Florida and 2.3% in Georgia.
        - Mean days' supply per transaction increased 3.8% in Florida and 5.7% in Georgia.
    - Compared to a predictive set of outcomes had Florida's prescription drug regulatory reforms and PDMP not been implemented, the actual outcomes one year after implementation included a:
        - 2.52% reduction in total opioid volume.
        - 5.64% reduction in mean MME per transaction.
        - 1.35% reduction in total number of opioid prescriptions dispensed.
    - Changes in prescriber behavior were statistically significant with a reduction of approximately 3.0 kg per month in total opioid volume (equivalent of 600,000 5-mg hydrocodone bitartrate tablets per month).
- Study limitations:
    - Study excluded distribution channels outside of retail channels (small % excluded).
    - Data did not capture complete retail market as patients not filling a prescription within a certain period of time were excluded.
    - To determine sustained effect of Florida's prescription drug regulatory reforms and the PDMP, a longer-term trends analysis is needed.
    - Study did not account for spillover effects from Florida's regulatory reforms, which may have influenced opioid prescribing and use in Georgia.
    - Study did not determine the individual effect of Florida's prescription drug regulatory reforms and the PDMP.

Original Investigation

Effect of Florida's Prescription Drug Monitoring Program and Pill Mill Laws on Opioid Prescribing and Use

Lainie Rutkow, JD, PhD, MPH; Hsien-Yen Chang, PhD; Matthew Daubresse, MHS; Daniel W. Webster, ScD, MPH; Elizabeth A. Stuart, PhD; G. Caleb Alexander, MD, MS

IMPORTANCE Prescription Drug Monitoring Program (PDMP) and pill mill laws are among the principal means states use to reduce prescription drug abuse and diversion, yet little high-quality evidence exists regarding their effect.

OBJECTIVE To quantify the effect of Florida's PDMP and pill mill laws on overall and high-risk opioid prescribing and use.

DESIGN, SETTING, AND PARTICIPANTS We applied comparative interrupted time-series analyses to IMS Health LifeLink LRx data to characterize the effect of PDMP and pill mill law implementation on a closed cohort of prescribers, retail pharmacies, and patients from July 2010 through September 2012 in Florida (intervention state) compared with Georgia (control state). We conducted sensitivity analyses, including varying length of observation and modifying requirements for continuous observation of individuals throughout the study period.

MAIN OUTCOMES AND MEASURES Total opioid volume, mean morphine milligram equivalent (MME) per transaction, mean days' supply per transaction, and total number of opioid prescriptions dispensed. Analyses were conducted per prescriber and per patient, in aggregate and after stratifying by volume of baseline opioid prescribing for prescribers and use for patients.

RESULTS From July 2010 through September 2012, a cohort of 2.6 million patients, 431 890 prescribers, and 2829 pharmacies was associated with approximately 480 million prescriptions in Florida and Georgia, 7.7% of which were for opioids. Total monthly opioid volume, MME per transaction, days' supply, and prescriptions dispensed were higher in Florida than Georgia before implementation. Florida's laws were associated with statistically significant declines in opioid volume (2.5 kg/mo, $P < .05$; equivalent to approximately 500 000 5-mg tablets of hydrocodone bitartrate per month) and MME per transaction (0.45 mg/mo, $P < .05$), without any change in days' supply. Twelve months after implementation, the policies were associated with approximately a 1.4% decrease in opioid prescriptions, 2.5% decrease in opioid volume, and 5.6% decrease in MME per transaction. Reductions were limited to prescribers and patients with the highest baseline opioid prescribing and use. Sensitivity analyses, varying time windows, and enrollment criteria supported the main results.

CONCLUSIONS AND RELEVANCE Florida's PDMP and pill mill laws were associated with modest decreases in opioid prescribing and use. Decreases were greatest among prescribers and patients with the highest baseline opioid prescribing and use.

JAMA Intern Med. doi:10.1001/jamainternmed.2015.3931
Published online August 17, 2015.

Supplemental content at jamainternalmedicine.com

Author Affiliations: Author affiliations are listed at the end of this article.

Corresponding Author: G. Caleb Alexander, MD, MS, Department of Epidemiology, Johns Hopkins Bloomberg School of Public Health, 615 N Wolfe St, Room W6035, Baltimore, MD 21205 (galexand@jhsph.edu).

Prescription opioids provide necessary analgesia to millions of Americans, yet the country faces soaring rates of opioid diversion, addiction, and overdose deaths.[1-3] In the mid-2000s, Florida emerged as the epicenter of this epidemic. From 2003 to 2009, prescription drug overdose deaths in Florida increased more than 80%.[4] In 2010, among the 100 US physicians purchasing the greatest amounts of oxycodone, 90 were in Florida.[5] As a direct response, in 2010, Florida's legislature addressed pill mills, or rogue pain management clinics where prescription drugs are inappropriately prescribed and dispensed.[6] Florida's pill mill law required these clinics to register with the state and have a physician-owner, created inspection requirements, and established prescribing and dispensing requirements and prohibitions for physicians at these clinics. The law's implementation began in 2010, with additional elements becoming effective in July 2011 that prohibited prescriber dispensing of certain drugs.[7] In September 2011, Florida's Prescription Drug Monitoring Program (PDMP) became operational.[8] Florida's PDMP uses an electronic database to collect information about prescription drugs dispensed within the state. Florida-based prescribers and dispensers may voluntarily access the PDMP's information to review individuals' history to identify and address problematic practices such as physician shopping.[9] Within the first 3 months of operation, more than 8000 prescribers registered, and the PDMP received almost 340 000 queries. After 1 year, in September 2012, the PDMP had received more than 2.3 million queries from more than 18 000 registered prescribers.[10]

Recent studies have identified promising findings after Florida's legislative actions. Johnson and colleagues[11] determined that Florida's prescription drug–attributable mortality rate decreased by 23% from 2010 to 2012 and found declines in the prescribing rates of drugs often associated with overdose deaths. The findings of a recently published quasi-experimental study[12] suggest that oxycodone-caused mortality declined 25% after PDMP implementation. A study by Surratt and colleagues[13] found that diversion rates for prescription opioids in Florida were significantly reduced during a similar period. While the results of these studies suggest that Florida's legislative initiatives may be having their desired effect, little is known about how these laws have influenced prescribing. Such information is important because it provides evidence of the practical effects of these laws on prescriber and patient behaviors,[14] which greatly contribute to the amount of prescription opioids in circulation. We used a comparative interrupted time-series framework to quantify the degree to which Florida's recent legislative actions influenced prescription opioid prescribing and use within the state compared with these practices in Georgia over the same period.

Methods

Data

The study did not require institutional review board approval because it involved deidentified secondary data. We used IMS Health LifeLink LRx (IMS Incorporated) data,[15] consisting of anonymized, individual-level prescription claims derived from tens of thousands of retail, food store, independent, and mass merchandiser pharmacies. They represent approximately 65% of retail prescriptions dispensed in the United States, including claims paid by Medicare, Medicaid, commercial insurance, and cash. Each prescription contains information about the retail transaction, the patient, and the prescriber. Transaction data include National Drug Code–level product information, quantity dispensed, days' supply, source of payment, and 5-digit zip code of the dispensing pharmacy. Patient information includes sex, year of birth, a mail-order flag, and date of the first appearance in the data. Prescriber information is derived from the American Medical Association Physician Masterfile and includes specialty and 5-digit zip code.

Time Segments and Participants

We divided our study period into the following 3 segments: (1) a 12-month preintervention period (July 2010 through June 2011) preceding the policy changes; (2) a 3-month implementation period (July through September 2011), when the pill mill and PDMP laws were implemented; and (3) a 12-month postperiod after the policy changes (October 2011 through September 2012). Georgia served as a comparison state because it had not implemented a pill mill or PDMP law during our analysis period, had comparable trends in the outcomes of interest during the preintervention period, and is located in the same US region as Florida.

We identified approximately 12 million individuals who filled at least 1 prescription for any drug in Florida or Georgia from July 2010 through September 2012. We assigned each individual a state of residence based on the modal zip code reflected in their prescription claims. In our primary analyses, we used a 2-step process to derive a closed cohort of individuals to minimize bias from individuals entering or leaving the study population. First, we excluded 3.6 million patients (approximately 28%) who filled at least 1 prescription from stores that did not consistently report data to IMS Health throughout the study period. Second, we excluded 4.3 million individuals (approximately 36%) who did not fill claims for any drug within 3 months of the first and last months of the study period. We excluded approximately 2% of transactions with erroneous or extreme values (eg, negative quantities dispensed or transactions with morphine milligram equivalents [MMEs] >360 mg per transaction).

Statistical Analysis

We examined 4 outcomes, derived on a monthly basis and examined at prescriber and transaction levels. First, we quantified total opioid volume prescribed using MME doses, which standardizes opioid prescriptions and accounts for differences in molecules and quantity and strength of doses dispensed.[16] Second, we examined mean MME per transaction, which provides a sense of the magnitude of opioid use within individual transactions. Risk of opioid-related morbidity and mortality increases as MME increases,[17] and experts have argued that clinicians should not exceed an MME of 80 to 100 mg daily across all prescribed opioids.[16-18] Third, we examined mean days' supply per transaction because greater

days' supply increases opportunities for abuse, diversion, and overdose. Fourth, we quantified total number of opioid prescriptions dispensed.

We applied a comparative interrupted time-series analysis to evaluate 2 related Florida laws on these outcomes, taking into account autocorrelation across time.[19] Although we derived our outcomes as monthly measures, we averaged the 3 months when these 2 laws were initially implemented (ie, implementation period), giving us 25 observations per state (12 monthly preimplementation observations, a 3-month implementation period, and 12 monthly postimplementation observations). We used linear regression to quantify the policy changes' effect on each outcome, and a linear trend was found to fit the data well. Two interaction terms—one with a state indicator (Florida or Georgia) and a period indicator and another with a state indicator (Florida or Georgia) and a postimplementation monthly indicator—were our main focus, which represented the difference in change of level and prescription rate (trend) from the preimplementation to postimplementation periods between the states. We performed additional analyses stratifying prescribers and patients into groups based on total opioid volume prescribed or used during the preimplementation period.

To account for clustering of observations across time within each state, we adjusted for autocorrelation when constructing models using the generalized Durbin-Watson test. The R^2 of all models was higher than 0.95, reflecting large sample sizes and little variation on the outcomes of interest over time. All analyses were performed using statistical software (SAS, version 9.4 [proc autoreg command with nlag function]; SAS Institute Inc).

Sensitivity Analyses

We performed sensitivity analyses to examine whether our results were robust according to varied assumptions. First, we varied length of observation in the preimplementation and postimplementation periods using 6-month and 18-month intervals. Second, to mitigate the potential for selection bias from analyzing only those patients with claims at the study period's beginning and end, we repeated our analyses using an open cohort in which we permitted patients to drop in and out. Third, given the reformulation of oxycodone in August 2010, we repeated our analyses with the exclusion of extended-release oxycodone.

Results

Patient, Prescriber, and Pharmacy Characteristics

Our final cohort consisted of 2.6 million patients, 431 890 prescribers, and 2829 pharmacies. From July 2010 through September 2012, the cohort filled approximately 480 million prescriptions, of which 7.7% were for opioids. Eligible prescription opioids accounted for 7.5% of captured prescriptions in Florida and 7.8% of captured prescriptions in Georgia. Most prescriptions (77.4%) were filled in chain stores, with fewer filled by independent retailers (9.9%), food stores (9.0%), and mass merchandisers (3.7%).

Trends in Outcomes

Total opioid volume (327.2 vs 118.3 kg), mean MME per transaction (54.88 vs 46.55 mg), and mean days' supply per transaction (18.74 vs 16.23 days) were higher in Florida than Georgia during the preimplementation period (eAppendix 1 in the Supplement). Total opioid volume in Florida decreased approximately 4% (from 327.2 to 313.9 kg) from the preimplementation to postimplementation periods, whereas mean MME per transaction decreased 5.7% (from 54.88 to 51.74 mg), and mean days' supply per transaction increased 3.8% (from 18.74 to 19.46 days) over the same period. In Georgia, overall total opioid volume decreased 2.3%, mean MME per transaction decreased 4.7%, and mean days' supply per transaction increased 5.7% from preimplementation to postimplementation.

The **Figure** shows trends in observed and predicted total opioid volumes for Florida and Georgia from July 2010 through September 2012. From July 2010 through June 2011, monthly total MME per transaction in Florida was consistently 3 times higher than that in Georgia. This difference begins to gradually decrease when Florida's law prohibiting prescriber dispensing of opioids was implemented in July 2011. The Figure stratifies the same outcome by patients in the top 10th, 5th, 3rd, and 1st percentiles of opioid use at baseline in Florida and Georgia. Monthly total MME per transaction among patients with high opioid use in Florida increased from July 2010 through June 2011. However, during the postintervention period, from October 2011 through September 2012, total monthly MME per transaction decreased by approximately 36%. Comparatively, decreases in Georgia's monthly total MME per transaction during this period were negligible.

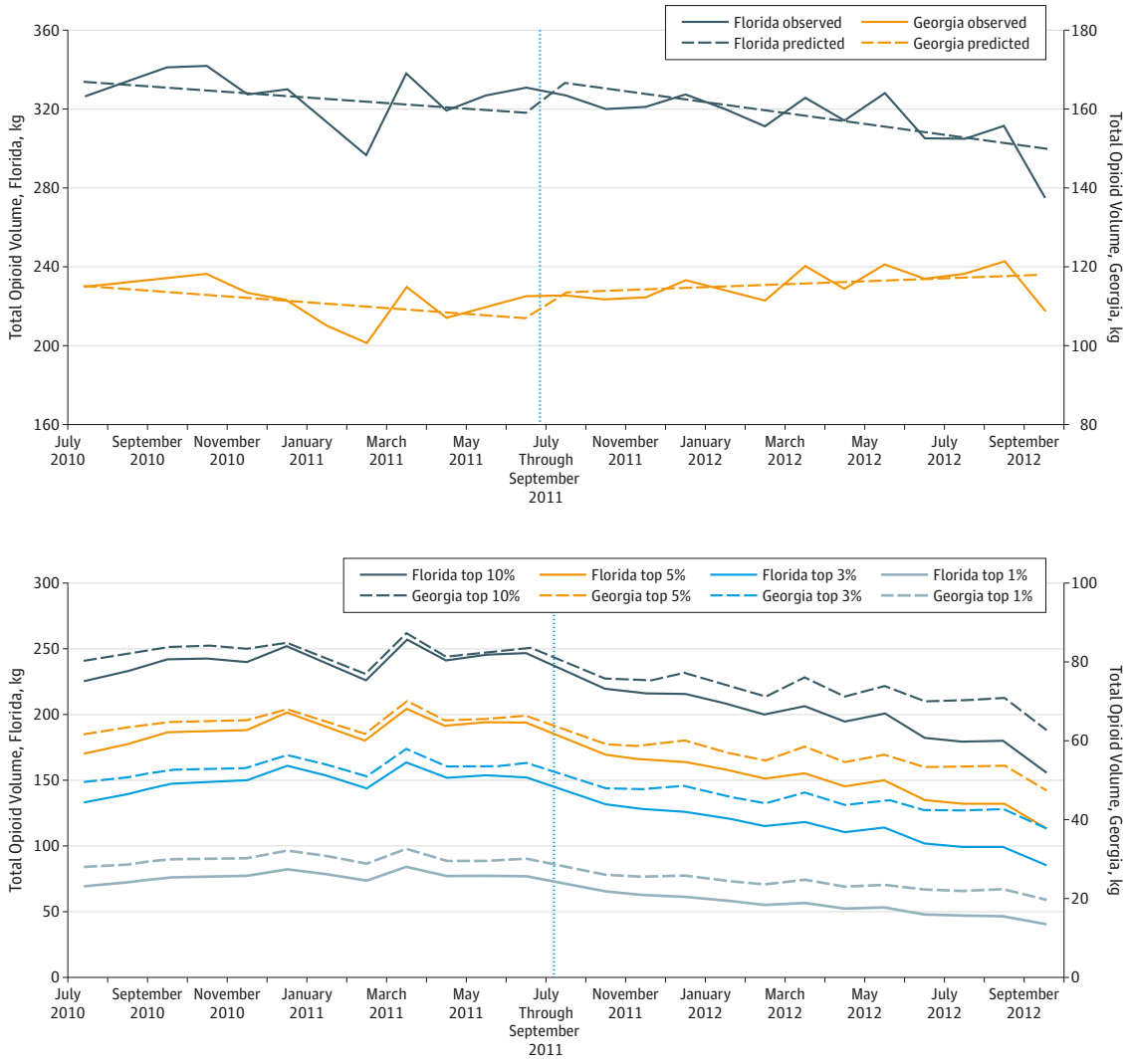
Changes in Prescription Opioid Sales

Table 1 summarizes the policies' overall changes in prescription opioid sales in Florida compared with Georgia. Although there was no statistically significant change in levels of the outcomes at the time of policy implementation, the policies were associated with statistically significant reductions in trends in total opioid volume and mean MME per transaction. For example, the policies resulted in a statistically significant relative reduction of approximately 2.5 kg/mo in total opioid volume in Florida compared with Georgia from the preimplementation to postimplementation periods, a decrease equivalent to a reduction approximately equal to half a million 5-mg tablets of hydrocodone bitartrate per month. The policies were associated with a statistically significant 0.45 mg/mo relative reduction in mean MME across all transactions in Florida compared with Georgia. The policies had no apparent effect on days' supply per transaction or on total number of opioid prescriptions dispensed.

Differences Between Actual and Predicted Outcomes

Table 2 summarizes differences between monthly actual and predicted values of total opioid volume, mean MME per transaction, mean days' supply, and total number of opioid prescriptions in Florida had the policies not been implemented. For example, during the first 6 months after implementation, there was a 0.59% difference between total opioid volume dis-

Figure. Total Opioid Volume Dispensed in Florida and Georgia, July 2010 Through September 2012



Volume represents cumulative monthly morphine milligram equivalent (MME) dose. See the Statistical Analysis subsection of the Methods section for additional details. Source: IMS Health LifeLink LRx Database (2010-2012) (IMS Health Incorporated).

pensed in Florida and total opioid volume expected had the PDMP and pill mill laws not been implemented. One year after these changes, the policies were associated with a 2.52% reduction in total opioid volume, 5.64% reduction in mean MME per transaction, no change in days' supply per transaction, and 1.35% reduction in total number of opioid prescriptions dispensed.

Changes in Opioid Volume Sales

There were modest and statistically significant decreases in total opioid volume among patients whose baseline opioid use was greatest (**Table 3**). For example, among patients at the 90th percentile of baseline use, the policies were associated with a statistically significant relative reduction of 5.1 kg/mo in total opioid volume. Significant decreases in MME per transaction attributable to the laws were limited to those with the highest levels of opioid use at baseline (the 90th, 95th, 97th and 99th percentiles) and were of a similar magnitude at approximately 1-mg/mo decline per transaction. There were statistically significant relative reductions in total number of opioid prescriptions dispensed to patients at the 90th, 95th, 97th, and 99th percentiles. For example, among patients at the 95th percentile of baseline use (40 694 patients in Florida and 19 647 patients in Georgia), the policies were associated with a reduction of approximately 740 opioid prescriptions dispensed per month.

Changes Among Prescribers

Table 4 summarizes changes at the prescriber level. For example, among prescribers at the 99th percentile of total opioid volume at baseline, the policy change was associated with a statistically significant relative reduction of approximately 3.0 kg/mo in total opioid volume, or the equivalent of 600 000 5-mg hydrocodone bitartrate tablets per month. The stron-

Table 1. Overall Effect of Florida's Policies on Monthly Prescription Opioid Sales[a]

Variable	Difference Between Florida and Georgia		Policy Effect
	Preimplementation (July 2010 through June 2011)	Postimplementation (October 2011 through September 2012)	
Total Opioid Volume, kg			
Level	219.3[b]	231.2[b]	11.9
Trend	−0.69	−3.15[b]	−2.46[c]
Mean MME per Transaction, mg			
Level	7.25[b]	7.44[b]	0.19
Trend	0.16	−0.29[b]	−0.45[c]
Mean Days' Supply per Transaction			
Level	2.61[b]	2.67[b]	0.06
Trend	−0.02	−0.02	0.00
Total No. of Opioid Prescriptions Dispensed, 1000s			
Level	160.7[b]	157.7[c]	−3.07
Trend	−0.36	−0.35	−0.01

Abbreviation: MME, morphine milligram equivalent.

[a] Volume represents cumulative monthly mean MME dose. Source: IMS Health LifeLink LRx Database (2010-2012) (IMS Health Incorporated).

[b] $P < .01$.

[c] $P < .05$.

Table 2. Difference Between Monthly Actual and Predicted Outcomes Without Policy Implementation[a]

First 6 Months After Policy			Second 6 Months After Policy			Through 1 Year After Policy		
Actual	Predicted Without Laws	Difference, %	Actual	Predicted Without Laws	Difference, %	Actual	Predicted Without Laws	Difference, %
Total Opioid Volume, kg								
320.9	322.8	0.59	306.8	320.8	4.56	313.9	321.8	2.52
Mean MME per Transaction, mg								
52.61	54.21	3.04	50.88	55.11	8.31	51.74	54.66	5.64
Mean Days' Supply per Transaction								
19.59	19.48	−0.56	19.34	19.40	0.31	19.46	19.44	−0.10
Total No. of Opioid Prescriptions Dispensed, 1000s								
294.4	299.3	1.66	298.7	301.8	1.04	296.5	300.5	1.35

Abbreviation: MME, morphine milligram equivalent.

[a] Source: IMS Health LifeLink LRx Database (2010-2012) (IMS Health Incorporated).

gest changes were on trends in total opioid volume and mean MME per transaction among those with the highest baseline prescription volume, although there were small, statistically significant relative increases in mean days' supply per transaction among these subpopulations of prescribers.

Sensitivity Analyses

In analyses using 18-month and 6-month (rather than 12-month) windows, the results' direction and statistical significance were similar, although the effects' magnitude varied (eAppendix 2 in the Supplement). Analyses using an open cohort showed similar results: the magnitude and statistical significance of the relative change in trends across outcomes were usually greater, but general trends remained the same (eAppendix 3 in the Supplement). The results were similar after the exclusion of extended-release oxycodone from our analyses.

Discussion

State-based PDMP and pill mill laws have become prominent policy mechanisms to address prescription drug abuse and diversion.[20,21] We used comparative interrupted time-series analyses to characterize changes associated with these laws in opioid prescribing and use in Florida, a state with high rates of opioid-related injuries and deaths. We found that jointly the policies were associated with modest reductions in total opioid volume, mean MME per transaction, and total number of opioid prescriptions dispensed, with no apparent effect on duration of treatment. These reductions were generally limited to patients and prescribers with the highest baseline opioid use and prescribing. Our results are important given soaring rates of prescription opioid abuse, as well as the prominent role that laws have in shaping states' responses to the epidemic.

Our findings highlight the need for more evidence demonstrating the effect of PDMP and pill mill laws. A recently published ecological study[22] using data from the Automation of Reports and Consolidated Orders System (ARCOS)[23] from 1999 to 2008 found that PDMPs had no overall influence on dispensing of MMEs per capita and noted that the effect varied dramatically between states, which is likely explained by large differences among states' PDMPs. Our study included Florida and Georgia as comparison states. The results from another ecological study[24] using ARCOS data from 1997 to 2003 sug-

Table 3. Effect of Florida's Policies on Patients, Stratified by Baseline Opioid Use[a]

	Quintile of Baseline Opioid Use, Percentile					Highest Baseline Opioid Use, Percentile			
Effect	1-20	21-40	41-60	61-80	81-100	90	95	97	99
Total Opioid Volume, kg									
Level difference	1.06[b]	0.15	0.05	0.46	−2.88	−9.20	−11.74[c]	−11.49[c]	−6.36[b]
Trend difference	0.12[b]	0.07[c]	0.23[c]	0.53	−4.16[b]	−5.07[b]	−4.99[b]	−4.14[b]	−2.02[b]
Mean MME per Transaction, mg									
Level difference	−0.33	−0.28	0.93	0.35	0.28	−0.14	−1.04	−1.45	−0.88
Trend difference	0.12[b]	0.12	0.37	−0.12	−0.79[b]	−1.09[b]	−1.39[b]	−1.41[b]	−0.98[b]
Mean Days' Supply per Transaction									
Level difference	0.79[b]	0.79[b]	0.47	−0.12	−0.01	0.12	0.21[c]	0.25[c]	0.42[b]
Trend difference	−0.06	−0.08	−0.09	−0.07	0.01	0.01	−0.01	−0.00	−0.00
Total No. of Opioid Prescriptions Dispensed, 1000s									
Level difference	−2.87[b]	−3.94[b]	−5.60[b]	−6.57[b]	−7.05[c]	−4.31[c]	−2.62	−2.01	−0.99[c]
Trend difference	0.12	−0.01	0.11	−0.19	−1.22[b]	−1.02[b]	−0.74[b]	−0.55[b]	−0.27[b]

Abbreviation: MME, morphine milligram equivalent.

[a] Volume represents cumulative monthly mean MME dose. Values represent preimplementation and postimplementation differences between Florida and Georgia in each outcome of interest. Source: IMS Health LifeLink LRx Database (2010-2012) (IMS Health Incorporated).

[b] $P < .01$.

[c] $P < .05$.

Table 4. Effect of Florida's Policies on Prescribers, Stratified by Baseline Opioid Prescribing[a]

	Quintile of Baseline Opioid Prescribing, Percentile					Highest Baseline Opioid Prescribing, Percentile			
Effect	1-20	21-40	41-60	61-80	81-100	90	95	97	99
Total Opioid Volume, kg									
Level difference	0.13[b]	0.20	0.56	0.38	6.34	4.18	2.30	0.47	−3.20
Trend difference	0.01	0.01	0.15[c]	0.44[c]	−3.28[b]	−3.66[b]	−3.81[b]	−4.07[b]	−2.99[b]
Mean MME per Transaction, mg									
Level difference	1.44	0.17	−0.12	0.67	−0.04	−0.17	−0.43	−0.53	−0.88
Trend difference	0.25	−0.11	−0.11	0.17	−0.60[b]	−0.72[b]	−0.89[b]	−1.00[b]	−1.22[b]
Mean Days' Supply per Transaction									
Level difference	−0.14	0.05	0.08	0.00	0.05	0.08	0.14[c]	0.12	0.05
Trend difference	0.06	−0.06[c]	0.02	−0.02	0.00	0.01	0.02	0.03[b]	0.04[b]
Total No. of Opioid Prescriptions Dispensed, 1000s									
Level difference	0.17	−0.19	−0.62	−1.57	−3.16	−1.99	−1.05	0.40	−0.99
Trend difference	0.02	0.08	0.26[b]	0.37	−1.02	−0.96	−0.72	−0.70[c]	−0.38

Abbreviation: MME, morphine milligram equivalent.

[a] Volume represents cumulative monthly mean MME dose. Values represent preimplementation and postimplementation differences between Florida and Georgia in each outcome of interest. Source: IMS Health LifeLink LRx Database (2010-2012) (IMS Health Incorporated).

[b] $P < .01$.

[c] $P < .05$.

gested that PDMPs were associated with declines in quantity of oxycodone shipments. However, these studies did not consider PDMP utilization itself.

Our study adds to a growing evidence base evaluating state policies designed to curb epidemic rates of opioid prescribing. Differences in outcome measurements, exposures, data sources, and analytic approaches have led to mixed conclusions about PMDPs' influences on opioid prescribing and make direct comparison of our results difficult. Few, if any, studies have evaluated pill mill laws exclusively, and only a handful have considered these laws within a suite of policy interventions.[11,13] Our findings suggest that PDMP and pill mill law implementation jointly was associated with reductions in mean MME per transaction among patients and prescribers with the highest baseline use in Florida relative to Georgia. However, given wide variability in PDMP functioning, the generalizability of these results is likely limited to states with similarly designed PDMPs, pill mill laws, and sociodemographic profiles.

Most prescribers support policies such as those considered by our group.[14] Given this support and reductions in total opioid volume and mean MME per transaction among high-volume prescribers that we observed after implementation of Florida's policies, other states may want to consider similarly comprehensive regulatory approaches. This initiative might require prescribers to register with their state's PDMP and routinely query its data,[25] although such measures must be balanced by concerns regarding usage mandates.[26] To ensure that

high-volume prescribers are aware of these policies, states should engage in targeted outreach campaigns, particularly among subspecialties known to most commonly prescribe opioids.[27] In addition, states should consider drug treatment services because recent findings have confirmed that, as the prescription opioid supply decreases or is reformulated, individuals who misused these drugs turn to heroin.[28,29]

Our study has several limitations. First, although more than 85% of prescription opioids are dispensed through retail channels,[23] our analyses excluded other distribution channels, although this exclusion would likely lead us to underestimate the effects of the policies of interest. Second, our data provided an incomplete picture of the retail market, and patients may enter and leave the database we used for various reasons. To account for this possibility, we derived a closed cohort for our primary analysis and required patients to have filled at least 1 prescription for any drug within 3 months of the study period's beginning and end. Third, our sensitivity analyses yielded substantial differences in the magnitude of the policy effects, although direction, statistical significance, and substantive interpretation did not differ. To determine sustained effect of these policies, longer-term trends should be examined. Fourth, we focused on opioid prescribing and use rather than opioid-related injuries or deaths. However, sales of opioids are highly correlated with rates of injuries and death from their use.[30,31] Fifth, our analyses did not account for possible spillover effects from Florida's laws that may have influenced opioid prescribing and use in Georgia, leading to a possible overestimation of the effects of Florida's laws. Sixth, our analyses did not allow us to determine the individual effect of Florida's PDMP and pill mill laws because these policies were implemented at essentially the same time. Therefore, we evaluated these policies together, consistent with Florida's framing of its multifaceted approach to addressing prescription drug abuse and diversion.[7] However, our findings regarding high-use patients and prescribers suggested that Florida's pill mill law may have been the primary law of influence. This possibility could be further studied in states that have enacted a pill mill law but have lower levels of opioid prescribing and use.

Conclusions

To curb epidemic rates of prescribing, morbidity, and mortality associated with opioid misuse and diversion, states have spent millions of dollars implementing policies designed to reduce excessive dispensing of these products. Paramount to these efforts are studies empirically testing these policies' effectiveness and a growing evidence base informing policy makers of the benefits and harms that may result. Our study adds to this evidence base and using pharmacy claims data shows that implementation of Florida's PDMP and pill mill law was associated with modest decreases in opioid use and prescribing among patients and providers with high levels of opioid use at baseline relative to Georgia, a comparison state.

ARTICLE INFORMATION

Accepted for Publication: June 17, 2015.

Published Online: August 17, 2015. doi:10.1001/jamainternmed.2015.3931.

Author Affiliations: Department of Health Policy and Management, Johns Hopkins Bloomberg School of Public Health, Baltimore, Maryland (Rutkow, Chang, Webster, Stuart); Center for Drug Safety and Effectiveness, Johns Hopkins Bloomberg School of Public Health, Baltimore, Maryland (Chang, Daubresse, Stuart, Alexander); Department of Epidemiology, Johns Hopkins Bloomberg School of Public Health, Baltimore, Maryland (Daubresse, Alexander); Department of Mental Health, Johns Hopkins Bloomberg School of Public Health, Baltimore, Maryland (Stuart); Department of Biostatistics, Johns Hopkins Bloomberg School of Public Health, Baltimore, Maryland (Stuart); Division of General Internal Medicine, Johns Hopkins Medicine, Baltimore, Maryland (Alexander).

Author Contributions: Dr Alexander had full access to all the data in the study and takes responsibility for the integrity of the data and the accuracy of the data analysis.
Study concept and design: All authors.
Acquisition, analysis, or interpretation of data: All authors.
Drafting of the manuscript: Rutkow, Chang, Daubresse, Alexander.
Critical revision of the manuscript for important intellectual content: All authors.
Statistical analysis: Chang, Daubresse, Webster, Stuart.
Obtained funding: Alexander.
Administrative, technical, or material support: Rutkow, Chang, Daubresse, Alexander.
Study supervision: Rutkow, Alexander.

Conflict of Interest Disclosures: Dr Alexander reported being the chair of the US Food and Drug Administration's peripheral and central nervous system advisory committee, reported serving as a paid consultant to a mobile start-up (PainNavigator) and to IMS Health Incorporated, and reported being a member of an IMS Health scientific advisory board. This arrangement has been reviewed and approved by The Johns Hopkins University in accord with its conflict of interest policies. No other disclosures were reported.

Funding/Support: This work was funded by the Robert Wood Johnson Foundation Public Health Law Research program and by the Centers for Disease Control and Prevention.

Role of the Funder/Sponsor: The funding sources had no role in the design and conduct of the study; analysis or interpretation of the data; and preparation or final approval of the manuscript before publication.

Disclaimer: The statements, findings, conclusions, views, and opinions contained and expressed in this article are based in part on data obtained under license from the following IMS Health Incorporated information services: IMS Health LifeLink LRx Database (2010-2012), IMS Health Incorporated. All rights reserved. The statements, findings, conclusions, views, and opinions contained and expressed herein are not necessarily those of IMS Health Incorporated or any of its affiliated or subsidiary entities.

REFERENCES

1. Warner M, Chen LH, Makuc DM, Anderson RN, Miniño AM. Drug poisoning deaths in the United States, 1980-2008. Published December 2011. NCHS data brief 81. http://www.cdc.gov/nchs/data/databriefs/db81.pdf. Accessed June 25, 2015.

2. Substance Abuse and Mental Health Services Administration. *Results From the 2013 National Survey on Drug Use and Health: Summary of National Findings*. Rockville, MD: US Dept of Health and Human Services; 2014. NSDUH series H-48. HHS publication (SMA) 14-4863.

3. Dart RC, Surratt HL, Cicero TJ, et al. Trends in opioid analgesic abuse and mortality in the United States. *N Engl J Med*. 2015;372(3):241-248.

4. Centers for Disease Control and Prevention (CDC). Drug overdose deaths: Florida, 2003-2009. *MMWR Morb Mortal Wkly Rep*. 2011;60(26):869-872.

5. Drug Enforcement Administration. Florida doctors no longer among the top oxycodone purchasers in the United States. Published April 5, 2013. http://www.justice.gov/dea/divisions/mia/2013/mia040513.shtml. Accessed June 25, 2015.

6. Fla Stat §458.3265, 459.0137.

7. Florida Office of the Attorney General. Florida's prescription drug diversion and abuse roadmap,

2012-2015. http://myfloridalegal.com/webfiles.nsf/wf/kgrg-8t8l5k/$file/prescriptiondrugdiversionandabuseroadmap.pdf. Accessed June 5, 2015.

8. Fla Stat §893.055.

9. Florida Department of Health. 2012-2013 Prescription Drug Monitoring Program annual report. Published December 1, 2013. http://www.floridahealth.gov/%5C/statistics-and-data/e-forcse/news-reports/_documents/2012-2013pdmp-annual-report.pdf. Accessed June 5, 2015.

10. Florida Department of Health. 2011-2012 Prescription Drug Monitoring Program annual report. Published December 1, 2012. http://www.floridahealth.gov/%5C/statistics-and-data/e-forcse/news-reports/_documents/2011-2012pdmp-annual-report.pdf. Accessed June 5, 2015.

11. Johnson H, Paulozzi L, Porucznik C, Mack K, Herter B; Hal Johnson Consulting and Division of Disease Control and Health Promotion, Florida Department of Health. Decline in drug overdose deaths after state policy changes: Florida, 2010-2012. *MMWR Morb Mortal Wkly Rep*. 2014;63(26):569-574.

12. Delcher C, Wagenaar AC, Goldberger BA, Cook RL, Maldonado-Molina MM. Abrupt decline in oxycodone-caused mortality after implementation of Florida's Prescription Drug Monitoring Program. *Drug Alcohol Depend*. 2015;150:63-68.

13. Surratt HL, O'Grady C, Kurtz SP, et al. Reductions in prescription opioid diversion following recent legislative interventions in Florida. *Pharmacoepidemiol Drug Saf*. 2014;23(3):314-320.

14. Hwang CS, Turner LW, Kruszewski SP, Kolodny A, Alexander GC. Prescription drug abuse: a national survey of primary care physicians. *JAMA Intern Med*. 2015;175(2):302-304.

15. IMS Health. http://www.imshealth.com/portal/site/imshealth. Accessed June 25, 2015.

16. Ohio State Board of Pharmacy. Attention pharmacists: major change in the O.A.R.R.S. report to address the "M.E.D." Ohio Initiative. Published October 11, 2013. http://pharmacy.ohio.gov/Documents/Pubs/Special/OARRS/Changes%20Coming%20to%20OARRS%20for%20Opioid%20Guidelines%20-%2010.11.2013.pdf. Accessed June 25, 2015.

17. Dunn KM, Saunders KW, Rutter CM, et al. Opioid prescriptions for chronic pain and overdose: a cohort study. *Ann Intern Med*. 2010;152(2):85-92.

18. State Medical Board of Ohio. Guidelines for prescribing opioids for the treatment of chronic, non-terminal pain: 80 mg of a morphine equivalent daily dose (MED) "trigger point." Published 2013. http://www.opioidprescribing.ohio.gov/PDF/OARRS/Print_Prescribing_Guidelinesfor%20.pdf. Accessed June 25, 2015.

19. Diggle PJ, Heagerty P, Liang KY, Zeger SL. *Analysis of Longitudinal Data*. New York, NY: Oxford University Press; 2012. Oxford statistical science series.

20. Finklea KM, Sacco LN, Bagalman E. *Congressional Research Service*. Washington, DC: Prescription Drug Monitoring Programs; 2013.

21. Centers for Disease Control and Prevention. Public Health Law Program: menu of pain management clinic regulation. Published 2014. http://www.cdc.gov/phlp/docs/menu-pmcr.pdf. Accessed June 27, 2015.

22. Brady JE, Wunsch H, DiMaggio C, Lang BH, Giglio J, Li G. Prescription drug monitoring and dispensing of prescription opioids. *Public Health Rep*. 2014;129(2):139-147.

23. Office of Diversion Control, Drug Enforcement Administration. *Automation of Reports and Consolidated Orders System (ARCOS): Retail Summary Reports*. Springfield, VA: US Dept of Justice; date unknown. http://www.deadiversion.usdoj.gov/arcos/. Accessed July 1, 2015.

24. Reisman RM, Shenoy PJ, Atherly AJ, Flowers CR. Prescription opioid usage and abuse relationships: an evaluation of state prescription drug monitoring program efficacy. *Subst Abuse*. 2009;3:41-51.

25. Clark T, Eadie J, Kreiner P, Strickler G. Prescription drug monitoring programs: an assessment of the evidence for best practices. Published 2012. http://www.pdmpexcellence.org/sites/all/pdfs/Brandeis_PDMP_Report_final.pdf. Accessed June 26, 2015.

26. Haffajee RL, Jena AB, Weiner SG. Mandatory use of prescription drug monitoring programs. *JAMA*. 2015;313(9):891-892.

27. Volkow ND, McLellan TA, Cotto JH, Karithanom M, Weiss SR. Characteristics of opioid prescriptions in 2009. *JAMA*. 2011;305(13):1299-1301.

28. Dasgupta N, Creppage K, Austin A, Ringwalt C, Sanford C, Proescholdbell SK. Observed transition from opioid analgesic deaths toward heroin. *Drug Alcohol Depend*. 2014;145:238-241.

29. Kolodny A, Courtwright DT, Hwang CS, et al. The prescription opioid and heroin crisis: a public health approach to an epidemic of addiction. *Annu Rev Public Health*. 2015;36:559-574.

30. Dasgupta N, Kramer ED, Zalman MA, et al. Association between non-medical and prescriptive usage of opioids. *Drug Alcohol Depend*. 2006;82(2):135-142.

31. Alexander GC, Kruszewski SP, Webster DW. Rethinking opioid prescribing to protect patient safety and public health. *JAMA*. 2012;308(18):1865-1866.

Drugs Identified in Deceased Persons by Florida Medical Examiners

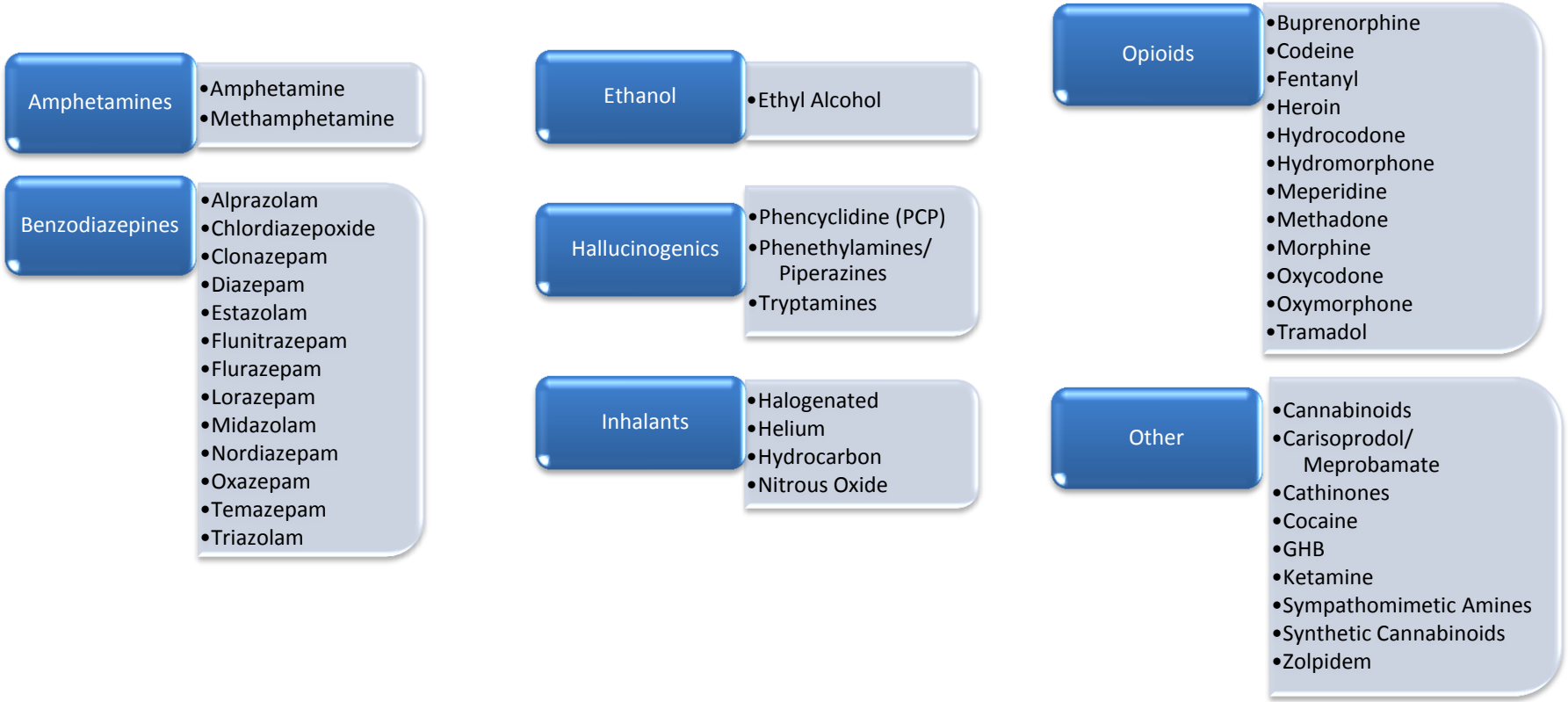
Interim Report 2014

Data Collection

The State of Florida's Bureau of Vital Statistics reported 94,749 deaths occurred in Florida during the first six months of 2014. Of the cases seen by the State's medical examiners, toxicology results determined that the drugs listed below were present at the time of death in 4,023 cases. The medical examiners assessed whether the drug(s) identified was the cause of death or merely present at the time of death. The data were then submitted to the Medical Examiners Commission for presentation in this report. It is important to note that each death is a single case, while each time a drug is detected represents an occurrence. The vast majority of the 4,023 cases (decedents) had more than one drug occurrence.

When reporting the data, the state's medical examiners were asked to distinguish between the drugs determined to be the cause of death, and those drugs that were present in the body at the time of death. A drug is indicated as the cause of death only when, after examining all evidence, the autopsy, and toxicology results, the medical examiner determines the drug played a causal role in the death. It is not uncommon for a decedent to have multiple drugs listed as a cause of death. However, a drug may not have played a causal role in the death even when the medical examiner determines the drug is present or identifiable in the decedent. Therefore, a decedent often is found to have multiple drugs listed as present; these are drug occurrences and are not equivalent to cases (decedents).

Data were collected on the following drugs:



Report Summary

Some general statewide trends for the first half of 2014 (January – June) are listed below. **Please note: comparisons to 2013 are based on data for January through June.**

- ✓ A decrease of 3.4 percent (140 less) in total drug-related deaths compared with the first half of 2013.
- ✓ 2,232 individuals (121 fewer deaths than the first half of 2013) died with one or more prescription drugs in their system. The drugs were identified as both the cause of death and present in the decedent. These drugs may have also been mixed with illicit drugs and alcohol.
- ✓ 938 individuals (34 fewer deaths than the first half of 2013) died with at least one prescription drug in their system that was identified as the cause of death. These drugs may have been mixed with other prescription drugs, illicit drugs and/or alcohol.
- ✓ Prescription drugs (benzodiazepines, carisoprodol/meprobamate, zolpidem and all opioids, excluding heroin) continued to be found more often than illicit drugs, both as the cause of death and present at death. Prescription drugs account for 72.9 percent of all drug occurrences in this report when ethyl alcohol is excluded.
- ✓ Heroin (89.7 percent), fentanyl (69.8 percent), methadone (69.4 percent), and morphine (56.2 percent) were listed as causing death in more than 50 percent of the deaths in which these drugs were found.
- ✓ The four most frequently occurring drugs found in individuals were ethyl alcohol (1,983), benzodiazepines (1,954, including 577 alprazolam deaths), cocaine (725), and morphine (525).
- ✓ The drugs that caused the most deaths were benzodiazepines (533, including 252 alprazolam deaths), cocaine (343), morphine (295), ethyl alcohol (274), and oxycodone (219).
- ✓ Occurrences of heroin increased by 119.7 percent (85 more) and deaths caused by heroin increased by 102.9 percent (71 more) compared with the first half of 2013; 90 percent of all heroin deaths were classified as accidental.
- ✓ Occurrences of methadone decreased by 24.6 percent (80 less) and hydrocodone decreased by 19.5 percent (82 less) compared with the first half of 2013. Deaths caused by methadone decreased by 24.1 percent (54 less) and hydrocodone decreased by 24.2 percent (38 less) during the same period.
- ✓ Occurrences of oxycodone decreased by 12.2 percent (65 less) and deaths caused by oxycodone decreased by 20.1 percent (55 less) compared with the first half of 2013.

(Report Summary Continued)

- ✓ Occurrences of cocaine increased by 8.9 percent (59 more) and deaths caused by cocaine increased by 16.3 percent (48 more) compared with the first half of 2013.

- ✓ Occurrences of fentanyl increased by 47.4 percent (64 more) and deaths caused by fentanyl increased 67.5 percent (56 more) compared with the first half of 2013.

- ✓ Alprazolam (Xanax) and nordiazepam dominate the category of benzodiazepines. Occurrences of alprazolam decreased by 13.5 percent (90 less) and nordiazepam decreased by 20.7 percent (79 less) compared to the first half of 2013. Alprazolam and nordiazepam are rarely the sole cause of death, but are common as contributing to the cause of multi-drug deaths.

- ✓ Occurrences of methamphetamine increased by 34.6 percent (28 more) and amphetamine increased by 15.8 percent (18 more) compared with the first half of 2013.

Medical Examiners Commission Members

Stephen J. Nelson, M.A., M.D., F.C.A.P.
Chairman
District 10 Medical Examiner
1021 Keene Boulevard
Winter Haven, FL 33880
863.298.4600
Email: StephenNelson@polk-county.net

Bruce A. Hyma, M.D.
District 11 Medical Examiner

Robin Giddens Sheppard, L.F.D.
Vice President/Funeral Director, Hardage-Giddens Funeral Home

Honorable James S. Purdy, J.D.
Public Defender, Seventh Judicial Circuit

Honorable Angela B. Corey, J.D.
State Attorney, Fourth Judicial Circuit

Honorable Paul "Rick" Beseler, M.S.C.J.
Sheriff, Clay County

Wesley Heidt, J.D.
Office of the Attorney General

Kenneth T. Jones
State Registrar, Department of Health

Honorable Carol Whitmore, R.N.
Manatee County Commissioner

Medical Examiners Commission Staff - Florida Department of Law Enforcement

Post Office Box 1489
Tallahassee, Florida 32302
(850) 410-8600
FAX: (850) 410-8621
MEC Website

Chief of Policy and Special Programs Vickie Koenig
(850) 410-8600
VickieKoenig@fdle.state.fl.us

Government Analyst II Doug Culbertson
(850) 410-8609
DougCulbertson@fdle.state.fl.us

Research and Training Specialist Kipp Heisterman
(850) 410-8608
KippHeisterman@fdle.state.fl.us

Administrative Assistant Debbie Turvaville
(850) 410-8610
DebbieTurvaville@fdle.state.fl.us

Table of Contents

Coverage Map

Florida Medical Examiner Districts

District 1
Escambia
Okaloosa
Santa Rosa
Walton

District 2
Franklin
Gadsden
Leon
Liberty
Jefferson
Taylor
Wakulla

District 3 **Covered by*
Columbia ***4**
Dixie ***8**
Hamilton ***4**
Lafayette ***2**
Madison ***2**
Suwannee ***2**

District 4
Duval
Nassau
Clay

District 5
Citrus
Hernando
Lake
Marion
Sumter

District 6
Pinellas
Pasco

District 7
Volusia

District 8
Alachua
Baker
Bradford
Gilchrist
Levy
Union

District 9
Orange
Osceola

District 10
Hardee
Highlands
Polk

District 11
Miami-Dade

District 12
DeSoto
Manatee
Sarasota

District 13
Hillsborough

District 14
Bay
Calhoun
Gulf
Jackson
Washington
Holmes

District 15
Palm Beach

District 16
Monroe

District 17
Broward

District 18
Brevard

District 19
Indian River
Martin
Okeechobee
St. Lucie

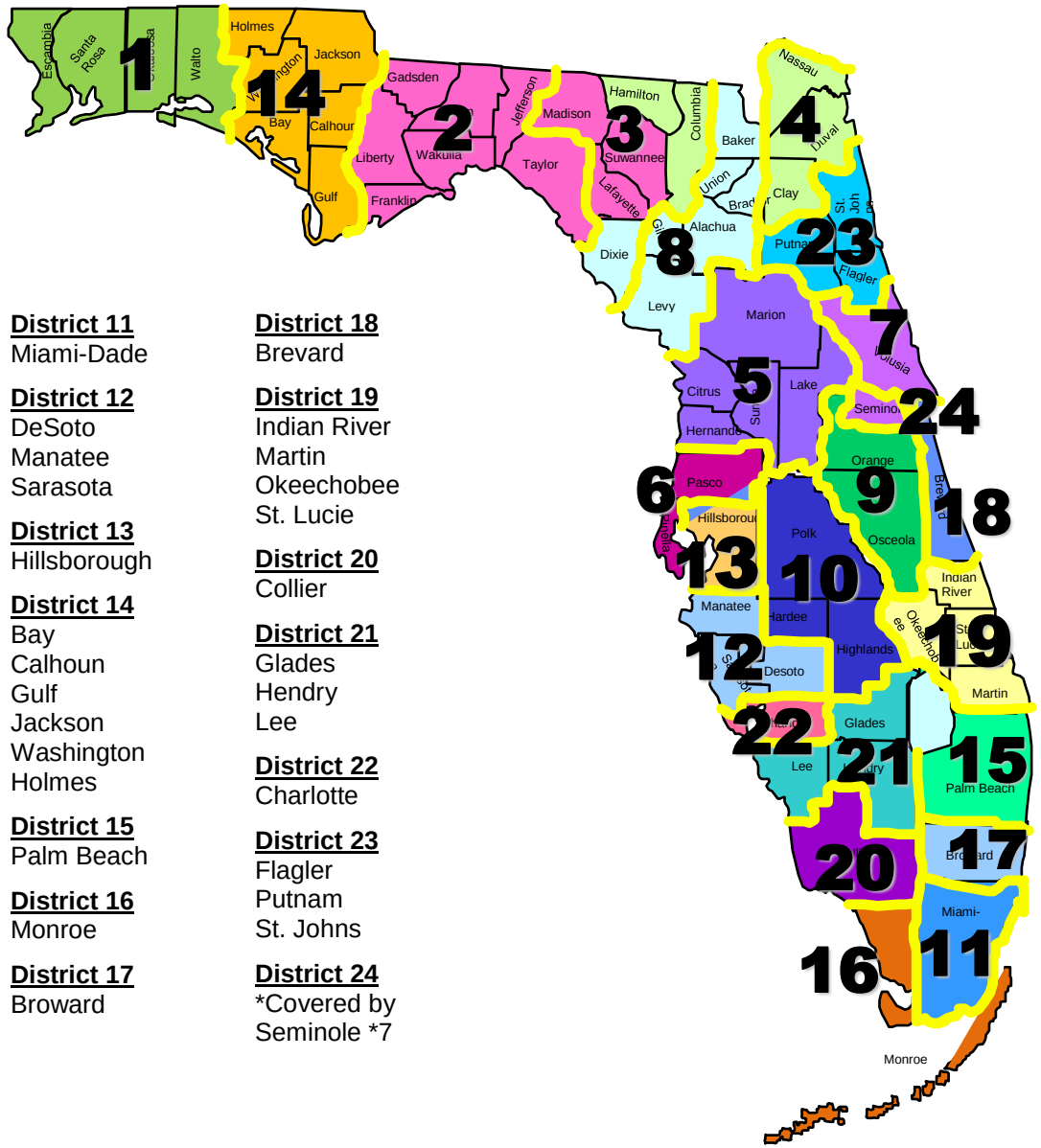
District 20
Collier

District 21
Glades
Hendry
Lee

District 22
Charlotte

District 23
Flagler
Putnam
St. Johns

District 24
*Covered by
Seminole *7



Summary of Drug Occurrences in Decedents
January – June 2014

	Drug Present in Body	Cause	Present	Total Occurrences
Amphetamines	Amphetamine	28	104	132
	Methamphetamine	40	69	109
Benzodiazepines	Alprazolam	252	325	577
	Chlordiazepoxide	2	44	46
	Clonazepam	25	145	170
	Diazepam	81	189	270
	Estazolam	0	0	0
	Flunitrazepam	0	0	0
	Flurazepam	0	4	4
	Lorazepam	7	83	90
	Midazolam	8	73	81
	Nordiazepam	62	240	302
	Oxazepam	39	144	183
	Temazepam	57	174	231
	Triazolam	0	0	0
Ethanol		274	1,709	1,983
Hallucinogenics	Phencyclidine (PCP)	0	0	0
	Phenethylamines/Piperazines	2	4	6
	Tryptamines	0	0	0

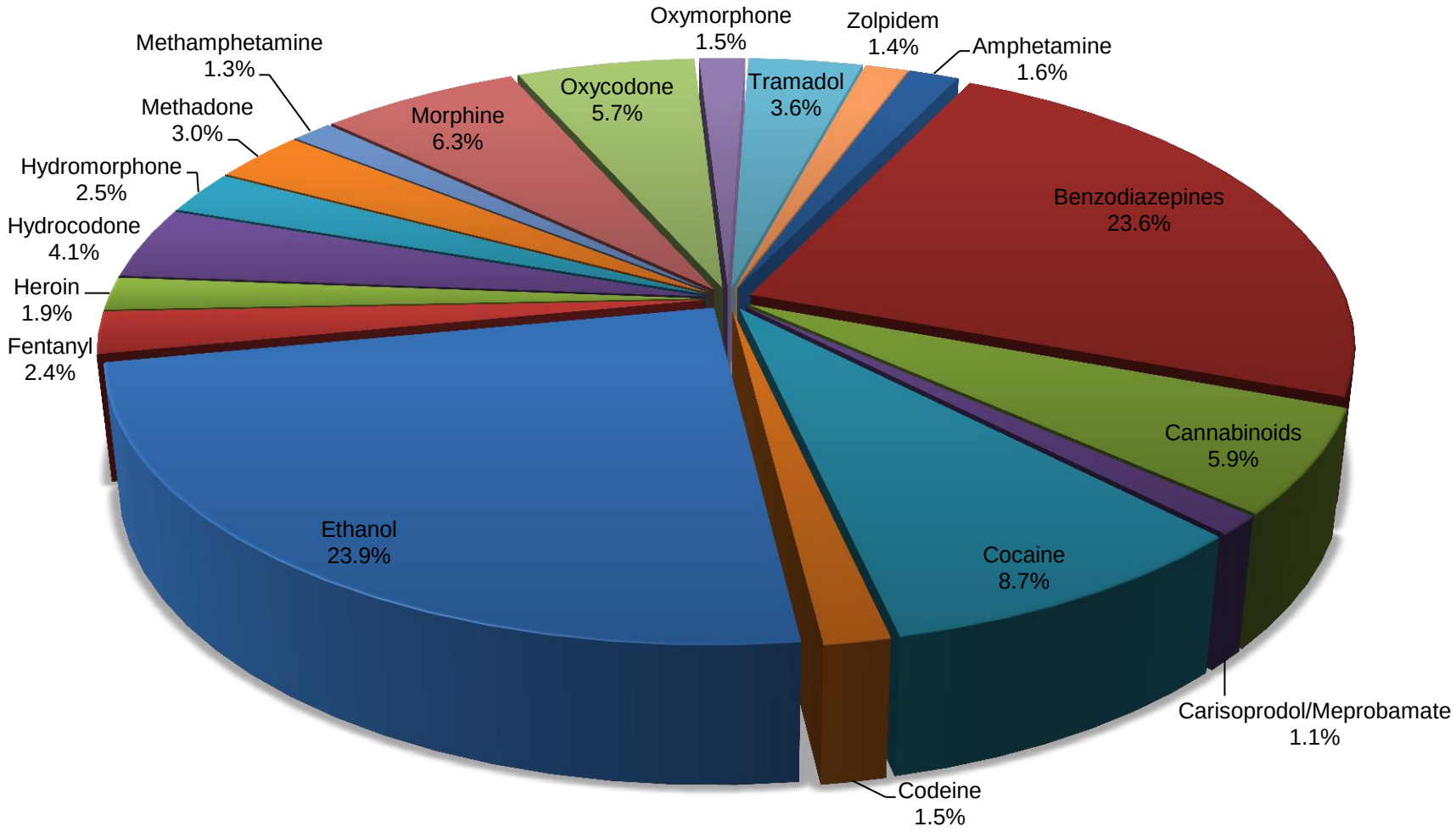
Summary of Drug Occurrences in Decedents (continued)

	Drug Present in Body	Cause	Present	Total Occurrences
Inhalants	Halogenated	13	2	15
	Helium	12	0	12
	Hydrocarbon	3	1	4
	Nitrous Oxide	0	0	0
Opioids	Buprenorphine	5	12	17
	Codeine	16	109	125
	Fentanyl	139	60	199
	Heroin	140	16	156
	Hydrocodone	119	220	339
	Hydromorphone	73	133	206
	Meperidine	2	3	5
	Methadone	170	75	245
	Morphine	295	230	525
	Oxycodone	219	251	470
	Oxymorphone	30	91	121
	Tramadol	57	244	301
Other	Cannabinoids	1	491	492
	Carisoprodol/Meprobamate	13	78	91
	Cathinones	19	53	72
	Cocaine	343	382	725
	GHB	1	0	1
	Ketamine	2	11	13
	Sympathomimetic Amines	2	10	12
	Synthetic Cannabinoids	1	1	2
	Zolpidem	22	92	114

Note: The total occurrences for buprenorphine and cannabinoids are under reported due to analytical variability across medical examiner districts. Medical examiners were asked to identify any metabolites of parent drugs. Since heroin is immediately metabolized to morphine, this may lead to a slight over-reporting of morphine-related deaths.

Frequency of Occurrence of Drugs in Decedents

January – June 2014



Buprenorphine, Cathinones, GHB, Ketamine, Meperidine, Other Sympathomimetic Amines, Synthetic Cannabinoids, all tracked inhalants, and all tracked hallucinogenics individually constituted less than 1% of the drug frequencies and were not included.

Note: In many deaths, several drugs contributed to the death; thus, the count of specific drugs is greater than the number of cases.

Comparison of Drug Occurrences in Decedents

	Drug Present in Body	January-June 2013	January-June 2014	Percentage Change
Amphetamines	Amphetamine	114	132	15.8%
	Methamphetamine	81	109	34.6%
Benzodiazepines	Alprazolam	667	577	-13.5%
	Chlordiazepoxide	38	46	21.1%
	Clonazepam	198	170	-14.1%
	Diazepam	366	270	-26.2%
	Estazolam	2	0	*
	Flunitrazepam	0	0	*
	Flurazepam	6	4	*
	Lorazepam	88	90	2.3%
	Midazolam	85	81	-4.7%
	Nordiazepam	381	302	-20.7%
	Oxazepam	191	183	-4.2%
	Temazepam	255	231	-9.4%
	Triazolam	2	0	*
Ethanol		1990	1,983	-0.4%
Hallucinogenics	Phencyclidine (PCP)	0	0	*
	Phenethylamines/Piperazines	5	6	*
	Tryptamines	1	0	*

*Due to the small number of occurrences, percent changes were not calculated.

Note: Many of the deaths were found to have several drugs contributing to the death, thus the count of specific drugs listed is greater than the number of cases.

Comparison of Drug Occurrences in Decedents (continued)

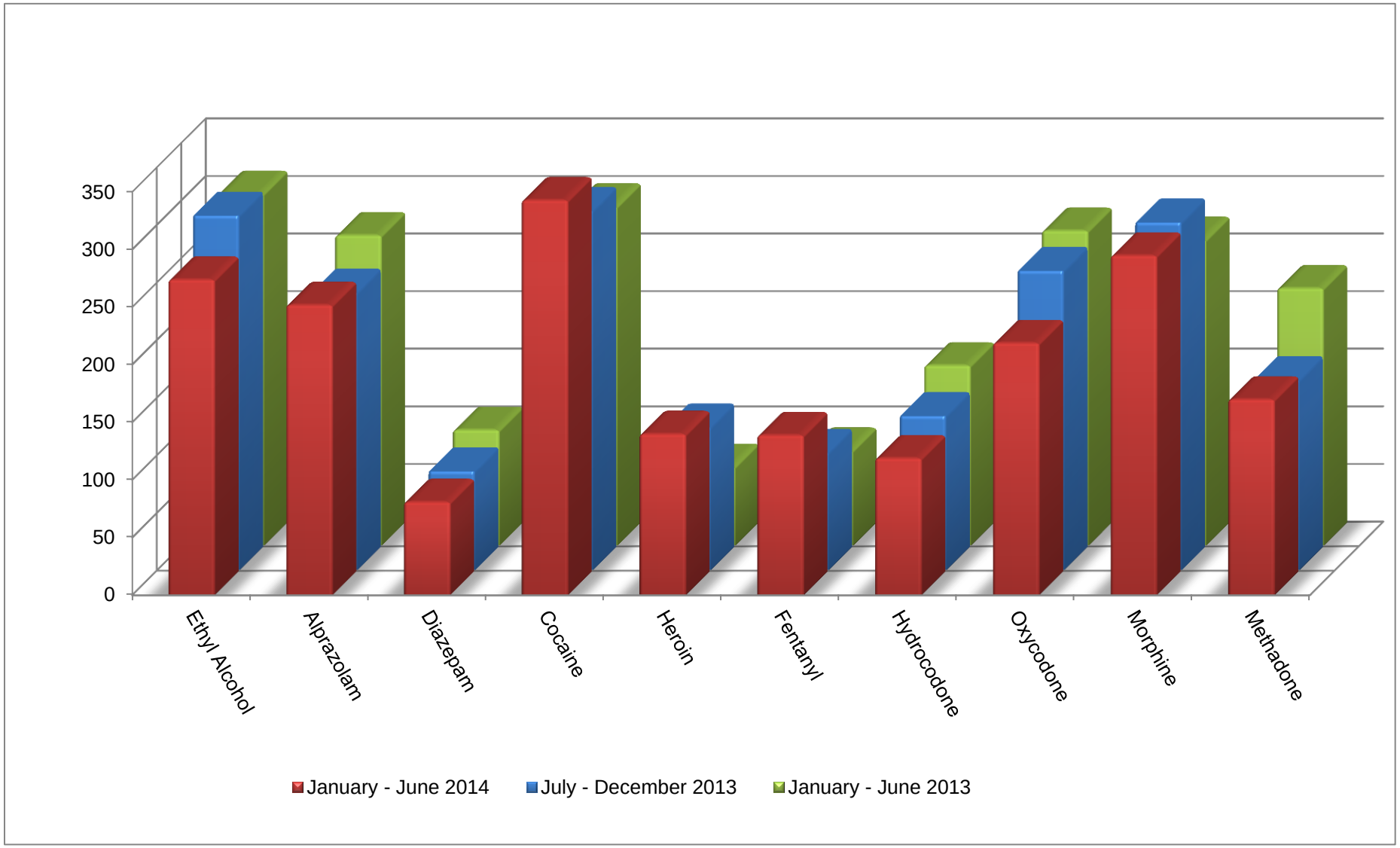
	Drug Present in Body	January-June 2013	January-June 2014	Percentage Change
Inhalants	Halogenated	19	15	*
	Helium	10	12	*
	Hydrocarbon	5	4	*
	Nitrous Oxide	1	0	*
Opioids	Buprenorphine	17	17	*
	Codeine	87	125	43.7%
	Fentanyl	135	199	47.4%
	Heroin	71	156	119.7%
	Hydrocodone	421	339	-19.5%
	Hydromorphone	221	206	-6.8%
	Meperidine	9	5	*
	Methadone	325	245	-24.6%
	Morphine	457	525	14.9%
	Oxycodone	535	470	-12.2%
	Oxymorphone	124	121	-2.4%
	Tramadol	224	301	34.4%
Other	Cannabinoids	401	492	22.7%
	Carisoprodol/Meprobamate	127	91	-28.3%
	Cathinones	42	72	71.4%
	Cocaine	666	725	8.9%
	GHB	0	1	*
	Ketamine	7	13	*
	Sympathomimetic Amines	15	12	*
	Synthetic Cannabinoids	16	2	*
	Zolpidem	157	114	-27.4%

*Due to the small number of occurrences, percent changes were not calculated.

Note: Many of the deaths were found to have several drugs contributing to the death, thus the count of specific drugs listed is greater than the number of cases.

Drug Caused Deaths

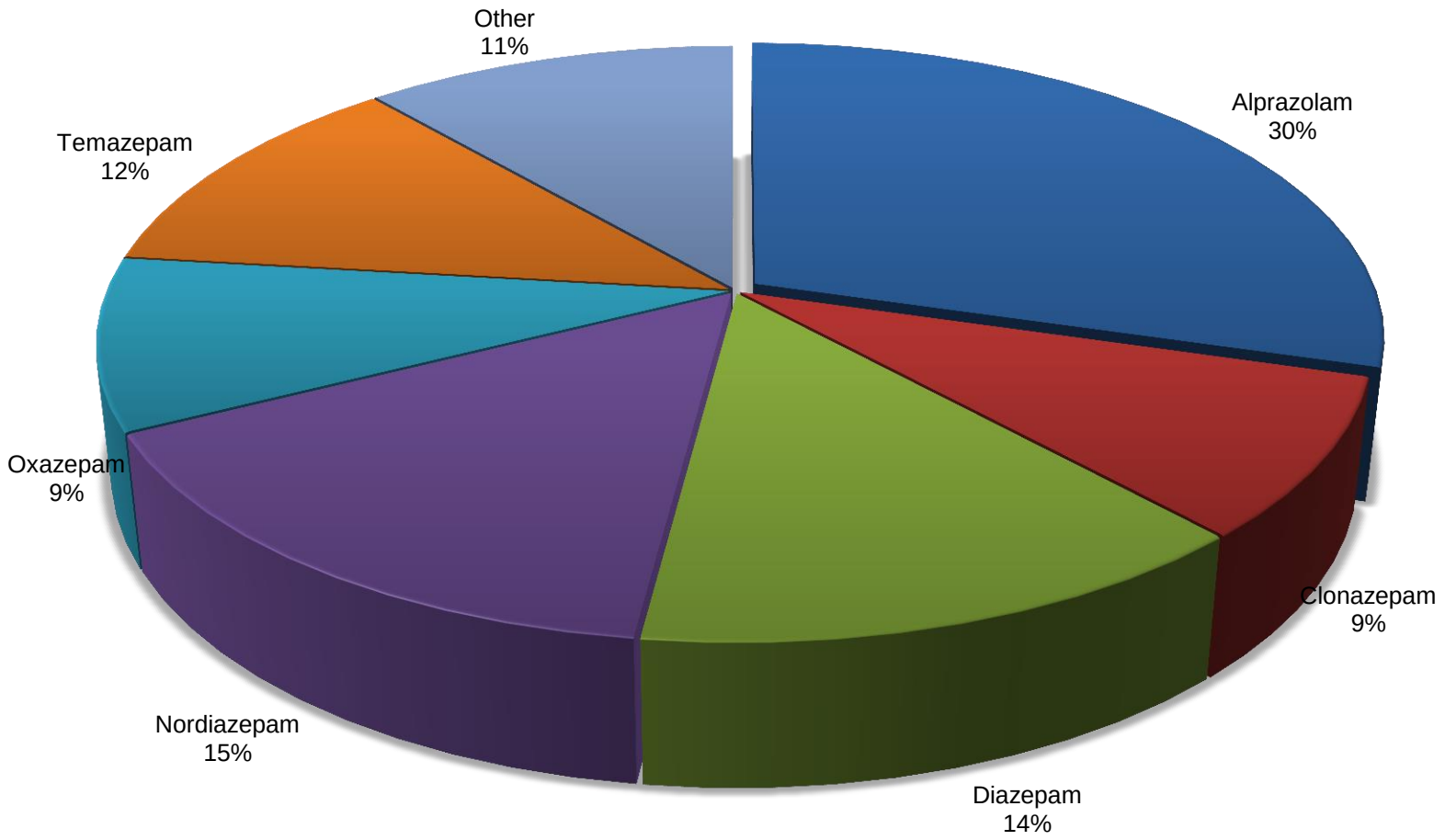
January 2013 – June 2014



Note: Not all drugs are included in the above chart.

Frequency of Occurrence of Benzodiazepines

January – June 2014



Other category includes Chlordiazepoxide, Lorazepam, and Midazolam, as well as Estazolam, Flunitrazepam, Flurazepam and Triazolam, which individually constituted less than 1% of all occurrences.

Alprazolam Deaths

January – June 2014

Medical Examiner District & Area of Florida		Total Deaths with Alprazolam			Deaths with Alprazolam Only			Deaths with Alprazolam in Combination with Other Drugs		
District	Area of Florida	Total	Cause	Present	Total	Cause	Present	Total	Cause	Present
1	Pensacola	27	19	8	0	0	0	27	19	8
2	Tallahassee	8	3	5	0	0	0	8	3	5
3	Live Oak	6	3	3	0	0	0	6	3	3
4	Jacksonville	48	19	29	4	1	3	44	18	26
5	Leesburg	39	15	24	8	4	4	31	11	20
6	St. Petersburg	65	41	24	2	0	2	63	41	22
7	Daytona Beach	15	1	14	0	0	0	15	1	14
8	Gainesville	10	5	5	1	1	0	9	4	5
9	Orlando	46	12	34	2	0	2	44	12	32
10	Lakeland	24	8	16	3	1	2	21	7	14
11	Miami	56	17	39	6	0	6	50	17	33
12	Sarasota	22	11	11	2	0	2	20	11	9
13	Tampa	34	18	16	3	0	3	31	18	13
14	Panama City	17	7	10	0	0	0	17	7	10
15	West Palm Bch	40	28	12	0	0	0	40	28	12
16	Florida Keys	2	0	2	0	0	0	2	0	2
17	Ft. Lauderdale	29	20	9	5	2	3	24	18	6
18	Melbourne	22	10	12	1	0	1	21	10	11
19	Ft. Pierce	22	4	18	5	0	5	17	4	13
20	Naples	6	2	4	0	0	0	6	2	4
21	Ft. Myers	11	0	11	0	0	0	11	0	11
22	Port Charlotte	11	3	8	1	0	1	10	3	7
23	St. Augustine	9	4	5	1	0	1	8	4	4
24	Sanford	8	2	6	0	0	0	8	2	6
Statewide Totals		**577**	**252**	**325**	**44**	**9**	**35**	**533**	**243**	**290**

Alprazolam Deaths by Age

January – June 2014

Medical Examiner District and Area of Florida			Alprazolam Caused Death						Alprazolam Present at Death					
			Age of Decedent						*Age of Decedent*					
District	Area of Florida	Total	Total	<18	18-25	26-34	35-50	>50	Total	<18	18-25	26-34	35-50	>50
1	Pensacola	27	19	0	1	4	7	7	8	0	2	2	3	1
2	Tallahassee	8	3	0	0	1	1	1	5	0	0	2	1	2
3	Live Oak	6	3	0	0	0	2	1	3	0	0	1	2	0
4	Jacksonville	48	19	1	1	5	4	8	29	0	2	6	8	13
5	Leesburg	39	15	0	0	4	5	6	24	0	1	6	8	9
6	St. Petersburg	65	41	0	4	7	18	12	24	0	0	2	8	14
7	Daytona Beach	15	1	0	0	0	1	0	14	0	0	3	5	6
8	Gainesville	10	5	0	0	1	2	2	5	0	1	0	2	2
9	Orlando	46	12	0	1	1	7	3	34	1	7	8	10	8
10	Lakeland	24	8	0	0	2	1	5	16	0	1	2	3	10
11	Miami	56	17	0	2	5	5	5	39	1	3	6	9	20
12	Sarasota	22	11	0	0	3	6	2	11	0	0	2	3	6
13	Tampa	34	18	0	3	4	7	4	16	0	1	1	3	11
14	Panama City	17	7	0	0	1	4	2	10	0	2	0	5	3
15	West Palm Bch	40	28	0	5	8	7	8	12	0	2	2	2	6
16	Florida Keys	2	0	0	0	0	0	0	2	0	0	0	1	1
17	Ft. Lauderdale	29	20	0	2	3	8	7	9	0	1	2	2	4
18	Melbourne	22	10	0	0	1	4	5	12	0	1	0	4	7
19	Ft. Pierce	22	4	0	0	0	1	3	18	0	2	4	6	6
20	Naples	6	2	0	0	1	1	0	4	0	0	2	0	2
21	Ft. Myers	11	0	0	0	0	0	0	11	0	0	1	5	5
22	Port Charlotte	11	3	0	0	0	1	2	8	0	0	0	3	5
23	St. Augustine	9	4	0	0	0	1	3	5	0	1	0	0	4
24	Sanford	8	2	0	0	1	0	1	6	0	0	4	2	0
Statewide Totals		**577**	**252**	**1**	**19**	**52**	**93**	**87**	**325**	**2**	**27**	**56**	**95**	**145**

Diazepam Deaths

January – June 2014

Medical Examiner District & Area of Florida		Total Deaths with Diazepam			Deaths with Diazepam Only			Deaths with Diazepam in Combination with Other Drugs		
District	Area of Florida	Total	Cause	Present	Total	Cause	Present	Total	Cause	Present
1	Pensacola	10	6	4	0	0	0	10	6	4
2	Tallahassee	3	0	3	0	0	0	3	0	3
3	Live Oak	2	0	2	0	0	0	2	0	2
4	Jacksonville	18	2	16	2	0	2	16	2	14
5	Leesburg	13	0	13	0	0	0	13	0	13
6	St. Petersburg	40	20	20	1	0	1	39	20	19
7	Daytona Beach	4	0	4	0	0	0	4	0	4
8	Gainesville	1	0	1	0	0	0	1	0	1
9	Orlando	18	4	14	0	0	0	18	4	14
10	Lakeland	11	1	10	1	0	1	10	1	9
11	Miami	15	3	12	1	0	1	14	3	11
12	Sarasota	5	4	1	0	0	0	5	4	1
13	Tampa	12	4	8	0	0	0	12	4	8
14	Panama City	2	1	1	0	0	0	2	1	1
15	West Palm Bch	34	16	18	2	0	2	32	16	16
16	Florida Keys	0	0	0	0	0	0	0	0	0
17	Ft. Lauderdale	13	7	6	1	0	1	12	7	5
18	Melbourne	19	7	12	0	0	0	19	7	12
19	Ft. Pierce	11	0	11	0	0	0	11	0	11
20	Naples	5	1	4	0	0	0	5	1	4
21	Ft. Myers	14	4	10	0	0	0	14	4	10
22	Port Charlotte	5	1	4	0	0	0	5	1	4
23	St. Augustine	13	0	13	1	0	1	12	0	12
24	Sanford	2	0	2	0	0	0	2	0	2
Statewide Totals		**270**	**81**	**189**	**9**	**0**	**9**	**261**	**81**	**180**

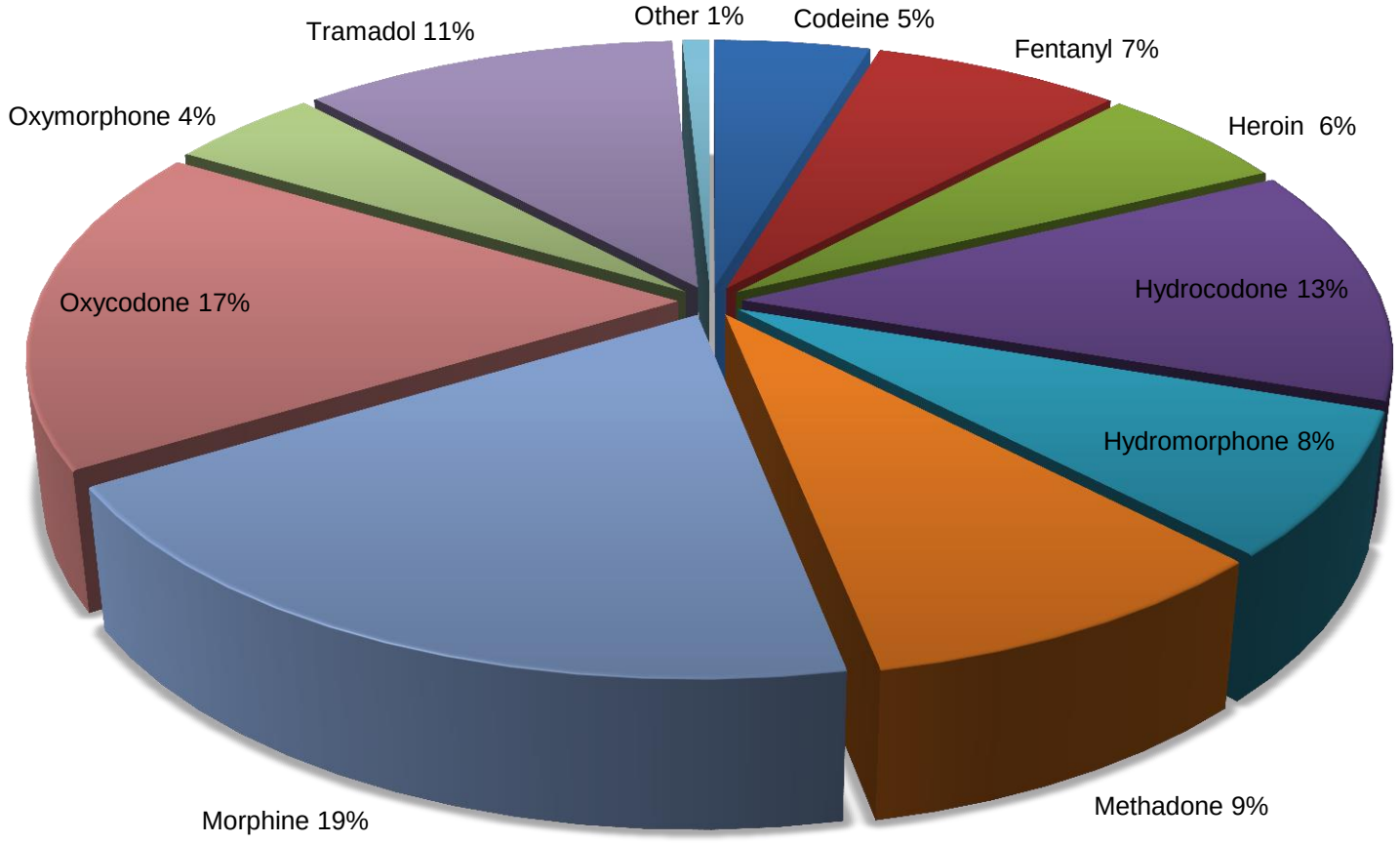
Diazepam Deaths by Age

January – June 2014

Medical Examiner District and Area of Florida			Diazepam Caused Death						Diazepam Present at Death					
			Age of Decedent						*Age of Decedent*					
District	Area of Florida	Total	Total	< 18	18-25	26-34	35-50	>50	Total	<18	18-25	26-34	35-50	>50
1	Pensacola	10	6	0	0	0	3	3	4	0	0	1	2	1
2	Tallahassee	3	0	0	0	0	0	0	3	0	0	0	0	3
3	Live Oak	2	0	0	0	0	0	0	2	0	1	0	0	1
4	Jacksonville	18	2	0	0	1	0	1	16	0	1	4	5	6
5	Leesburg	13	0	0	0	0	0	0	13	0	0	3	4	6
6	St. Petersburg	40	20	0	1	5	9	5	20	1	0	2	6	11
7	Daytona Beach	4	0	0	0	0	0	0	4	0	0	0	0	4
8	Gainesville	1	0	0	0	0	0	0	1	0	0	0	1	0
9	Orlando	18	4	0	0	1	2	1	14	0	0	1	7	6
10	Lakeland	11	1	0	0	0	0	1	10	0	0	1	2	7
11	Miami	15	3	0	0	0	2	1	12	0	2	1	5	4
12	Sarasota	5	4	0	0	1	2	1	1	0	1	0	0	0
13	Tampa	12	4	0	0	1	1	2	8	0	0	0	2	6
14	Panama City	2	1	0	0	0	0	1	1	0	1	0	0	0
15	West Palm Beach	34	16	0	1	1	5	9	18	1	1	1	5	10
16	Florida Keys	0	0	0	0	0	0	0	0	0	0	0	0	0
17	Ft. Lauderdale	13	7	0	0	1	1	5	6	0	0	0	3	3
18	Melbourne	19	7	0	1	1	3	2	12	0	0	0	7	5
19	Ft. Pierce	11	0	0	0	0	0	0	11	0	1	0	4	6
20	Naples	5	1	0	0	0	0	1	4	0	0	1	1	2
21	Ft. Myers	14	4	0	0	0	3	1	10	0	0	0	4	6
22	Port Charlotte	5	1	0	0	0	0	1	4	0	0	1	0	3
23	St. Augustine	13	0	0	0	0	0	0	13	0	0	0	4	9
24	Sanford	2	0	0	0	0	0	0	2	0	0	0	2	0
Statewide Totals		**270**	**81**	**0**	**3**	**12**	**31**	**35**	**189**	**2**	**8**	**16**	**64**	**99**

Frequency of Occurrence of Opioids

January – June 2014



Other category includes Buprenorphine and Meperidine, which individually constituted less than 1% of all occurrences.

Oxycodone Deaths

January – June 2014

Medical Examiner District & Area of Florida		Total Deaths with Oxycodone			Deaths with Oxycodone Only			Deaths with Oxycodone in Combination with Other Drugs		
District	Area of Florida	Total	Cause	Present	Total	Cause	Present	Total	Cause	Present
1	Pensacola	15	8	7	0	0	0	15	8	7
2	Tallahassee	4	0	4	0	0	0	4	0	4
3	Live Oak	5	1	4	1	0	1	4	1	3
4	Jacksonville	40	13	27	5	1	4	35	12	23
5	Leesburg	25	12	13	2	2	0	23	10	13
6	St. Petersburg	70	43	27	6	2	4	64	41	23
7	Daytona Beach	14	8	6	2	0	2	12	8	4
8	Gainesville	11	5	6	4	2	2	7	3	4
9	Orlando	40	17	23	3	0	3	37	17	20
10	Lakeland	18	6	12	4	1	3	14	5	9
11	Miami	36	10	26	4	1	3	32	9	23
12	Sarasota	4	3	1	0	0	0	4	3	1
13	Tampa	23	10	13	2	0	2	21	10	11
14	Panama City	6	3	3	0	0	0	6	3	3
15	West Palm Bch	35	21	14	3	0	3	32	21	11
16	Florida Keys	3	0	3	0	0	0	3	0	3
17	Ft. Lauderdale	22	16	6	4	3	1	18	13	5
18	Melbourne	33	17	16	2	0	2	31	17	14
19	Ft. Pierce	25	10	15	3	0	3	22	10	12
20	Naples	8	2	6	0	0	0	8	2	6
21	Ft. Myers	15	9	6	0	0	0	15	9	6
22	Port Charlotte	3	2	1	0	0	0	3	2	1
23	St. Augustine	10	1	9	0	0	0	10	1	9
24	Sanford	5	2	3	1	0	1	4	2	2
Statewide Totals		**470**	**219**	**251**	**46**	**12**	**34**	**424**	**207**	**217**

Oxycodone Deaths by Age

January – June 2014

Medical Examiner District and Area of Florida			Oxycodone Caused Death						Oxycodone Present at Death					
			Age of Decedent						*Age of Decedent*					
District	Area of Florida	Total	Total	< 18	18-25	26-34	35-50	>50	Total	<18	18-25	26-34	35-50	>50
1	Pensacola	15	8	0	0	0	5	3	7	0	0	2	2	3
2	Tallahassee	4	0	0	0	0	0	0	4	0	0	1	0	3
3	Live Oak	5	1	0	0	0	1	0	4	0	1	1	1	1
4	Jacksonville	40	13	1	1	3	5	3	27	0	3	5	12	7
5	Leesburg	25	12	0	0	0	3	9	13	0	0	5	3	5
6	St. Petersburg	70	43	0	3	6	19	15	27	0	2	5	5	15
7	Daytona Beach	14	8	0	0	2	3	3	6	0	0	0	1	5
8	Gainesville	11	5	0	0	0	2	3	6	0	0	0	2	4
9	Orlando	40	17	0	1	2	8	6	23	0	1	6	6	10
10	Lakeland	18	6	0	0	0	1	5	12	0	0	3	1	8
11	Miami	36	10	0	1	2	3	4	26	0	1	1	4	20
12	Sarasota	4	3	0	0	2	1	0	1	0	0	0	0	1
13	Tampa	23	10	0	3	2	1	4	13	0	0	2	4	7
14	Panama City	6	3	0	0	0	0	3	3	0	0	0	2	1
15	West Palm Bch	35	21	0	4	5	2	10	14	0	1	1	1	11
16	Florida Keys	3	0	0	0	0	0	0	3	0	1	0	1	1
17	Ft. Lauderdale	22	16	0	1	2	4	9	6	0	0	1	1	4
18	Melbourne	33	17	0	1	3	5	8	16	0	0	2	6	8
19	Ft. Pierce	25	10	0	1	0	3	6	15	0	2	1	2	10
20	Naples	8	2	0	0	0	1	1	6	0	1	1	1	3
21	Ft. Myers	15	9	1	0	3	3	2	6	0	0	0	1	5
22	Port Charlotte	3	2	0	0	0	1	1	1	0	0	1	0	0
23	St. Augustine	10	1	0	0	0	1	0	9	0	0	1	1	7
24	Sanford	5	2	0	1	0	1	0	3	0	0	0	3	0
Statewide Totals		**470**	**219**	**2**	**17**	**32**	**73**	**95**	**251**	**0**	**13**	**39**	**60**	**139**

Hydrocodone Deaths

January – June 2014

Medical Examiner District & Area of Florida		Total Deaths with Hydrocodone			Deaths with Hydrocodone Only			Deaths with Hydrocodone in Combination with Other Drugs		
District	Area of Florida	Total	Cause	Present	Total	Cause	Present	Total	Cause	Present
1	Pensacola	15	3	12	0	0	0	15	3	12
2	Tallahassee	7	3	4	2	1	1	5	2	3
3	Live Oak	6	1	5	2	0	2	4	1	3
4	Jacksonville	43	18	25	8	1	7	35	17	18
5	Leesburg	23	10	13	6	1	5	17	9	8
6	St. Petersburg	48	22	26	7	1	6	41	21	20
7	Daytona Beach	16	3	13	2	0	2	14	3	11
8	Gainesville	3	0	3	0	0	0	3	0	3
9	Orlando	32	9	23	10	0	10	22	9	13
10	Lakeland	13	5	8	2	0	2	11	5	6
11	Miami	14	3	11	0	0	0	14	3	11
12	Sarasota	6	3	3	0	0	0	6	3	3
13	Tampa	22	7	15	6	0	6	16	7	9
14	Panama City	10	3	7	1	0	1	9	3	6
15	West Palm Bch	14	6	8	1	0	1	13	6	7
16	Florida Keys	4	1	3	1	0	1	3	1	2
17	Ft. Lauderdale	13	11	2	1	1	0	12	10	2
18	Melbourne	10	2	8	2	1	1	8	1	7
19	Ft. Pierce	11	1	10	5	0	5	6	1	5
20	Naples	3	2	1	0	0	0	3	2	1
21	Ft. Myers	9	1	8	2	0	2	7	1	6
22	Port Charlotte	3	1	2	0	0	0	3	1	2
23	St. Augustine	10	2	8	1	0	1	9	2	7
24	Sanford	4	2	2	0	0	0	4	2	2
Statewide Totals		**339**	**119**	**220**	**59**	**6**	**53**	**280**	**113**	**167**

Hydrocodone Deaths by Age

January – June 2014

Medical Examiner District and Area of Florida			Hydrocodone Caused Death						Hydrocodone Present at Death					
			Age of Decedent						*Age of Decedent*					
District	Area of Florida	Total	Total	< 18	18-25	26-34	35-50	>50	Total	<18	18-25	26-34	35-50	>50
1	Pensacola	15	3	0	0	1	0	2	12	0	1	4	5	2
2	Tallahassee	7	3	0	0	0	2	1	4	0	1	0	0	3
3	Live Oak	6	1	0	0	0	1	0	5	0	0	1	2	2
4	Jacksonville	43	18	0	0	3	3	12	25	0	0	5	7	13
5	Leesburg	23	10	0	1	0	4	5	13	0	0	1	4	8
6	St. Petersburg	48	22	0	2	4	8	8	26	0	1	1	8	16
7	Daytona Beach	16	3	0	0	0	1	2	13	1	0	0	2	10
8	Gainesville	3	0	0	0	0	0	0	3	0	0	1	1	1
9	Orlando	32	9	0	0	0	6	3	23	0	1	0	4	18
10	Lakeland	13	5	0	0	0	1	4	8	0	0	1	2	5
11	Miami	14	3	0	0	2	0	1	11	0	0	2	3	6
12	Sarasota	6	3	0	0	0	1	2	3	0	0	0	0	3
13	Tampa	22	7	0	0	0	2	5	15	0	0	1	4	10
14	Panama City	10	3	0	0	0	3	0	7	0	0	1	2	4
15	West Palm Bch	14	6	0	1	1	1	3	8	0	0	2	1	5
16	Florida Keys	4	1	0	0	0	0	1	3	0	0	0	0	3
17	Ft. Lauderdale	13	11	0	0	3	4	4	2	0	0	0	1	1
18	Melbourne	10	2	0	0	0	2	0	8	0	0	0	2	6
19	Ft. Pierce	11	1	0	0	0	0	1	10	0	0	0	2	8
20	Naples	3	2	0	0	0	1	1	1	0	0	0	0	1
21	Ft. Myers	9	1	0	0	0	0	1	8	0	0	0	4	4
22	Port Charlotte	3	1	0	0	0	0	1	2	0	0	0	2	0
23	St. Augustine	10	2	0	0	0	0	2	8	0	0	1	2	5
24	Sanford	4	2	0	0	1	1	0	2	0	0	0	1	1
Statewide Totals		**339**	**119**	**0**	**4**	**15**	**41**	**59**	**220**	**1**	**4**	**21**	**59**	**135**

Methadone Deaths

January – June 2014

Medical Examiner District & Area of Florida		Total Deaths with Methadone			Deaths with Methadone Only			Deaths with Methadone in Combination with Other Drugs		
District	Area of Florida	Total	Cause	Present	Total	Cause	Present	Total	Cause	Present
1	Pensacola	10	8	2	1	0	1	9	8	1
2	Tallahassee	4	2	2	0	0	0	4	2	2
3	Live Oak	4	4	0	0	0	0	4	4	0
4	Jacksonville	17	13	4	1	1	0	16	12	4
5	Leesburg	25	18	7	2	2	0	23	16	7
6	St. Petersburg	42	33	9	5	5	0	37	28	9
7	Daytona Beach	4	3	1	0	0	0	4	3	1
8	Gainesville	5	4	1	0	0	0	5	4	1
9	Orlando	18	9	9	2	0	2	16	9	7
10	Lakeland	5	3	2	1	1	0	4	2	2
11	Miami	2	0	2	1	0	1	1	0	1
12	Sarasota	5	3	2	0	0	0	5	3	2
13	Tampa	26	22	4	7	6	1	19	16	3
14	Panama City	6	2	4	0	0	0	6	2	4
15	West Palm Bch	12	8	4	2	1	1	10	7	3
16	Florida Keys	0	0	0	0	0	0	0	0	0
17	Ft. Lauderdale	9	5	4	4	2	2	5	3	2
18	Melbourne	17	11	6	0	0	0	17	11	6
19	Ft. Pierce	5	3	2	0	0	0	5	3	2
20	Naples	4	3	1	1	1	0	3	2	1
21	Ft. Myers	12	7	5	0	0	0	12	7	5
22	Port Charlotte	1	0	1	0	0	0	1	0	1
23	St. Augustine	7	5	2	0	0	0	7	5	2
24	Sanford	5	4	1	2	2	0	3	2	1
Statewide Totals		**245**	**170**	**75**	**29**	**21**	**8**	**216**	**149**	**67**

Methadone Deaths by Age

January – June 2014

Medical Examiner District and Area of Florida			Methadone Caused Death						Methadone Present at Death					
			Age of Decedent						*Age of Decedent*					
District	Area of Florida	Total	Total	< 18	18-25	26-34	35-50	>50	Total	<18	18-25	26-34	35-50	>50
1	Pensacola	10	8	0	1	1	4	2	2	0	0	0	0	2
2	Tallahassee	4	2	0	0	1	1	0	2	0	1	1	0	0
3	Live Oak	4	4	0	0	1	1	2	0	0	0	0	0	0
4	Jacksonville	17	13	1	0	3	5	4	4	0	0	2	2	0
5	Leesburg	25	18	0	0	3	9	6	7	0	0	1	4	2
6	St. Petersburg	42	33	0	5	7	13	8	9	0	0	5	2	2
7	Daytona Beach	4	3	0	0	1	2	0	1	0	0	0	0	1
8	Gainesville	5	4	0	0	0	2	2	1	0	0	1	0	0
9	Orlando	18	9	0	0	5	2	2	9	0	2	1	4	2
10	Lakeland	5	3	0	0	0	2	1	2	0	0	0	0	2
11	Miami	2	0	0	0	0	0	0	2	1	0	0	0	1
12	Sarasota	5	3	0	0	1	2	0	2	0	0	1	0	1
13	Tampa	26	22	0	2	4	10	6	4	0	1	0	1	2
14	Panama City	6	2	0	0	2	0	0	4	0	1	1	1	1
15	West Palm Bch	12	8	0	0	1	3	4	4	0	1	1	0	2
16	Florida Keys	0	0	0	0	0	0	0	0	0	0	0	0	0
17	Ft. Lauderdale	9	5	0	0	3	1	1	4	0	0	0	1	3
18	Melbourne	17	11	0	1	3	3	4	6	0	0	1	1	4
19	Ft. Pierce	5	3	0	0	1	2	0	2	0	1	0	0	1
20	Naples	4	3	0	1	1	0	1	1	0	0	1	0	0
21	Ft. Myers	12	7	0	0	2	4	1	5	0	0	2	1	2
22	Port Charlotte	1	0	0	0	0	0	0	1	0	0	0	0	1
23	St. Augustine	7	5	0	0	1	1	3	2	0	0	1	1	0
24	Sanford	5	4	0	1	0	2	1	1	0	0	0	1	0
Statewide Totals		**245**	**170**	**1**	**11**	**41**	**69**	**48**	**75**	**1**	**7**	**19**	**19**	**29**

Morphine Deaths

January – June 2014

Medical Examiner District & Area of Florida		Total Deaths with Morphine			Deaths with Morphine Only			Deaths with Morphine in Combination with Other Drugs		
District	Area of Florida	Total	Cause	Present	Total	Cause	Present	Total	Cause	Present
1	Pensacola	15	10	5	1	0	1	14	10	4
2	Tallahassee	4	0	4	1	0	1	3	0	3
3	Live Oak	2	2	0	0	0	0	2	2	0
4	Jacksonville	34	21	13	3	2	1	31	19	12
5	Leesburg	20	9	11	1	1	0	19	8	11
6	St. Petersburg	42	23	19	4	2	2	38	21	17
7	Daytona Beach	8	3	5	0	0	0	8	3	5
8	Gainesville	10	4	6	0	0	0	10	4	6
9	Orlando	87	47	40	7	2	5	80	45	35
10	Lakeland	24	10	14	1	0	1	23	10	13
11	Miami	59	20	39	4	0	4	55	20	35
12	Sarasota	6	6	0	1	1	0	5	5	0
13	Tampa	28	22	6	7	5	2	21	17	4
14	Panama City	5	5	0	1	1	0	4	4	0
15	West Palm Bch	44	35	9	2	1	1	42	34	8
16	Florida Keys	1	0	1	0	0	0	1	0	1
17	Ft. Lauderdale	39	29	10	9	4	5	30	25	5
18	Melbourne	20	7	13	1	0	1	19	7	12
19	Ft. Pierce	22	15	7	1	1	0	21	14	7
20	Naples	10	7	3	0	0	0	10	7	3
21	Ft. Myers	21	12	9	1	0	1	20	12	8
22	Port Charlotte	16	3	13	3	0	3	13	3	10
23	St. Augustine	5	4	1	1	0	1	4	4	0
24	Sanford	3	1	2	0	0	0	3	1	2
Statewide Totals		**525**	**295**	**230**	**49**	**20**	**29**	**476**	**275**	**201**

Morphine Deaths by Age

January – June 2014

Medical Examiner District and Area of Florida			Morphine Caused Death						Morphine Present at Death					
			Age of Decedent						*Age of Decedent*					
District	Area of Florida	Total	Total	< 18	18-25	26-34	35-50	>50	Total	<18	18-25	26-34	35-50	>50
1	Pensacola	15	10	0	0	7	1	2	5	0	1	0	1	3
2	Tallahassee	4	0	0	0	0	0	0	4	0	0	1	0	3
3	Live Oak	2	2	0	0	0	1	1	0	0	0	0	0	0
4	Jacksonville	34	21	0	2	6	8	5	13	0	1	3	7	2
5	Leesburg	20	9	0	1	5	1	2	11	0	1	3	3	4
6	St. Petersburg	42	23	0	1	4	6	12	19	0	0	4	3	12
7	Daytona Beach	8	3	0	1	0	0	2	5	0	0	0	0	5
8	Gainesville	10	4	0	0	1	0	3	6	0	0	0	1	5
9	Orlando	87	47	1	9	7	20	10	40	1	3	7	7	22
10	Lakeland	24	10	0	0	2	2	6	14	0	1	3	4	6
11	Miami	59	20	0	4	10	3	3	39	0	1	5	7	26
12	Sarasota	6	6	0	0	0	4	2	0	0	0	0	0	0
13	Tampa	28	22	0	0	6	6	10	6	0	0	0	1	5
14	Panama City	5	5	0	0	0	1	4	0	0	0	0	0	0
15	West Palm Bch	44	35	0	6	10	10	9	9	1	1	1	1	5
16	Florida Keys	1	0	0	0	0	0	0	1	0	0	0	1	0
17	Ft. Lauderdale	39	29	0	4	7	9	9	10	0	0	0	3	7
18	Melbourne	20	7	0	0	1	5	1	13	0	0	1	3	9
19	Ft. Pierce	22	15	0	1	2	4	8	7	0	1	0	2	4
20	Naples	10	7	0	1	1	3	2	3	0	0	1	0	2
21	Ft. Myers	21	12	0	1	5	4	2	9	0	1	2	2	4
22	Port Charlotte	16	3	0	1	0	0	2	13	0	0	0	2	11
23	St. Augustine	5	4	0	0	2	0	2	1	0	0	0	0	1
24	Sanford	3	1	0	0	1	0	0	2	0	0	0	1	1
Statewide Totals		**525**	**295**	**1**	**32**	**77**	**88**	**97**	**230**	**2**	**11**	**31**	**49**	**137**

Fentanyl Deaths

January – June 2014

Medical Examiner District & Area of Florida		Total Deaths with Fentanyl			Deaths with Fentanyl Only			Deaths with Fentanyl in Combination with Other Drugs		
District	Area of Florida	Total	Cause	Present	Total	Cause	Present	Total	Cause	Present
1	Pensacola	3	2	1	0	0	0	3	2	1
2	Tallahassee	4	2	2	1	1	0	3	1	2
3	Live Oak	0	0	0	0	0	0	0	0	0
4	Jacksonville	11	9	2	1	1	0	10	8	2
5	Leesburg	7	5	2	2	1	1	5	4	1
6	St. Petersburg	16	14	2	3	3	0	13	11	2
7	Daytona Beach	4	2	2	1	0	1	3	2	1
8	Gainesville	4	2	2	1	0	1	3	2	1
9	Orlando	35	18	17	6	2	4	29	16	13
10	Lakeland	4	0	4	1	0	1	3	0	3
11	Miami	9	7	2	1	1	0	8	6	2
12	Sarasota	4	4	0	0	0	0	4	4	0
13	Tampa	7	6	1	0	0	0	7	6	1
14	Panama City	3	2	1	1	0	1	2	2	0
15	West Palm Bch	39	37	2	7	7	0	32	30	2
16	Florida Keys	0	0	0	0	0	0	0	0	0
17	Ft. Lauderdale	21	13	8	6	3	3	15	10	5
18	Melbourne	6	3	3	0	0	0	6	3	3
19	Ft. Pierce	9	3	6	2	1	1	7	2	5
20	Naples	1	1	0	0	0	0	1	1	0
21	Ft. Myers	3	2	1	0	0	0	3	2	1
22	Port Charlotte	5	4	1	0	0	0	5	4	1
23	St. Augustine	0	0	0	0	0	0	0	0	0
24	Sanford	4	3	1	1	1	0	3	2	1
Statewide Totals		**199**	**139**	**60**	**34**	**21**	**13**	**165**	**118**	**47**

Fentanyl Deaths by Age

January – June 2014

Medical Examiner District and Area of Florida			Fentanyl Caused Death						Fentanyl Present at Death					
			Age of Decedent						*Age of Decedent*					
District	Area of Florida	Total	Total	< 18	18-25	26-34	35-50	>50	Total	<18	18-25	26-34	35-50	>50
1	Pensacola	3	2	0	0	0	2	0	1	0	0	0	0	1
2	Tallahassee	4	2	0	1	1	0	0	2	0	0	0	0	2
3	Live Oak	0	0	0	0	0	0	0	0	0	0	0	0	0
4	Jacksonville	11	9	0	0	6	2	1	2	0	0	0	0	2
5	Leesburg	7	5	0	0	2	1	2	2	0	0	0	0	2
6	St. Petersburg	16	14	0	1	2	6	5	2	0	0	0	2	0
7	Daytona Beach	4	2	0	0	1	1	0	2	0	0	0	1	1
8	Gainesville	4	2	0	0	0	1	1	2	0	0	0	0	2
9	Orlando	35	18	0	3	2	8	5	17	2	0	2	8	5
10	Lakeland	4	0	0	0	0	0	0	4	0	0	0	1	3
11	Miami	9	7	0	0	2	2	3	2	0	0	0	0	2
12	Sarasota	4	4	0	0	0	4	0	0	0	0	0	0	0
13	Tampa	7	6	0	0	1	2	3	1	0	0	0	0	1
14	Panama City	3	2	0	0	0	1	1	1	0	0	0	0	1
15	West Palm Bch	39	37	0	4	16	12	5	2	0	0	0	1	1
16	Florida Keys	0	0	0	0	0	0	0	0	0	0	0	0	0
17	Ft. Lauderdale	21	13	0	2	1	7	3	8	0	0	2	4	2
18	Melbourne	6	3	0	1	0	0	2	3	0	0	0	1	2
19	Ft. Pierce	9	3	0	0	1	1	1	6	0	0	0	2	4
20	Naples	1	1	0	0	0	1	0	0	0	0	0	0	0
21	Ft. Myers	3	2	0	0	0	2	0	1	0	0	0	0	1
22	Port Charlotte	5	4	0	0	1	2	1	1	0	0	1	0	0
23	St. Augustine	0	0	0	0	0	0	0	0	0	0	0	0	0
24	Sanford	4	3	0	0	0	3	0	1	0	0	0	0	1
Statewide Totals		**199**	**139**	**0**	**12**	**36**	**58**	**33**	**60**	**2**	**0**	**5**	**20**	**33**

Heroin Deaths

January – June 2014

Medical Examiner District & Area of Florida		Total Deaths with Heroin			Deaths with Heroin Only			Deaths with Heroin in Combination with Other Drugs		
District	Area of Florida	Total	Cause	Present	Total	Cause	Present	Total	Cause	Present
1	Pensacola	6	6	0	0	0	0	6	6	0
2	Tallahassee	2	2	0	0	0	0	2	2	0
3	Live Oak	0	0	0	0	0	0	0	0	0
4	Jacksonville	8	8	0	1	1	0	7	7	0
5	Leesburg	8	8	0	0	0	0	8	8	0
6	St. Petersburg	4	4	0	0	0	0	4	4	0
7	Daytona Beach	2	2	0	0	0	0	2	2	0
8	Gainesville	0	0	0	0	0	0	0	0	0
9	Orlando	37	31	6	0	0	0	37	31	6
10	Lakeland	5	3	2	0	0	0	5	3	2
11	Miami	20	16	4	0	0	0	20	16	4
12	Sarasota	4	4	0	0	0	0	4	4	0
13	Tampa	9	9	0	0	0	0	9	9	0
14	Panama City	0	0	0	0	0	0	0	0	0
15	West Palm Bch	12	12	0	0	0	0	12	12	0
16	Florida Keys	0	0	0	0	0	0	0	0	0
17	Ft. Lauderdale	11	10	1	4	4	0	7	6	1
18	Melbourne	1	1	0	0	0	0	1	1	0
19	Ft. Pierce	4	4	0	0	0	0	4	4	0
20	Naples	3	3	0	0	0	0	3	3	0
21	Ft. Myers	12	9	3	0	0	0	12	9	3
22	Port Charlotte	2	2	0	0	0	0	2	2	0
23	St. Augustine	0	0	0	0	0	0	0	0	0
24	Sanford	6	6	0	0	0	0	6	6	0
Statewide Totals		**156**	**140**	**16**	**5**	**5**	**0**	**151**	**135**	**16**

Heroin Deaths by Age

January – June 2014

Medical Examiner District and Area of Florida			Heroin Caused Death						Heroin Present at Death					
			Age of Decedent						*Age of Decedent*					
District	Area of Florida	Total	Total	< 18	18-25	26-34	35-50	>50	Total	<18	18-25	26-34	35-50	>50
1	Pensacola	6	6	0	0	4	1	1	0	0	0	0	0	0
2	Tallahassee	2	2	0	0	1	0	1	0	0	0	0	0	0
3	Live Oak	0	0	0	0	0	0	0	0	0	0	0	0	0
4	Jacksonville	8	8	0	3	2	3	0	0	0	0	0	0	0
5	Leesburg	8	8	0	1	5	2	0	0	0	0	0	0	0
6	St. Petersburg	4	4	0	1	1	1	1	0	0	0	0	0	0
7	Daytona Beach	2	2	0	0	1	1	0	0	0	0	0	0	0
8	Gainesville	0	0	0	0	0	0	0	0	0	0	0	0	0
9	Orlando	37	31	1	6	6	15	3	6	0	2	3	1	0
10	Lakeland	5	3	0	1	2	0	0	2	0	0	1	1	0
11	Miami	20	16	0	4	9	2	1	4	0	0	1	1	2
12	Sarasota	4	4	0	0	0	3	1	0	0	0	0	0	0
13	Tampa	9	9	0	0	3	4	2	0	0	0	0	0	0
14	Panama City	0	0	0	0	0	0	0	0	0	0	0	0	0
15	West Palm Bch	12	12	0	5	3	3	1	0	0	0	0	0	0
16	Florida Keys	0	0	0	0	0	0	0	0	0	0	0	0	0
17	Ft. Lauderdale	11	10	0	1	4	3	2	1	0	0	0	1	0
18	Melbourne	1	1	0	0	1	0	0	0	0	0	0	0	0
19	Ft. Pierce	4	4	0	0	2	2	0	0	0	0	0	0	0
20	Naples	3	3	0	1	0	2	0	0	0	0	0	0	0
21	Ft. Myers	12	9	0	0	4	4	1	3	0	1	1	1	0
22	Port Charlotte	2	2	0	1	0	1	0	0	0	0	0	0	0
23	St. Augustine	0	0	0	0	0	0	0	0	0	0	0	0	0
24	Sanford	6	6	0	0	3	3	0	0	0	0	0	0	0
Statewide Totals		**156**	**140**	**1**	**24**	**51**	**50**	**14**	**16**	**0**	**3**	**6**	**5**	**2**

Cocaine Deaths

January – June 2014

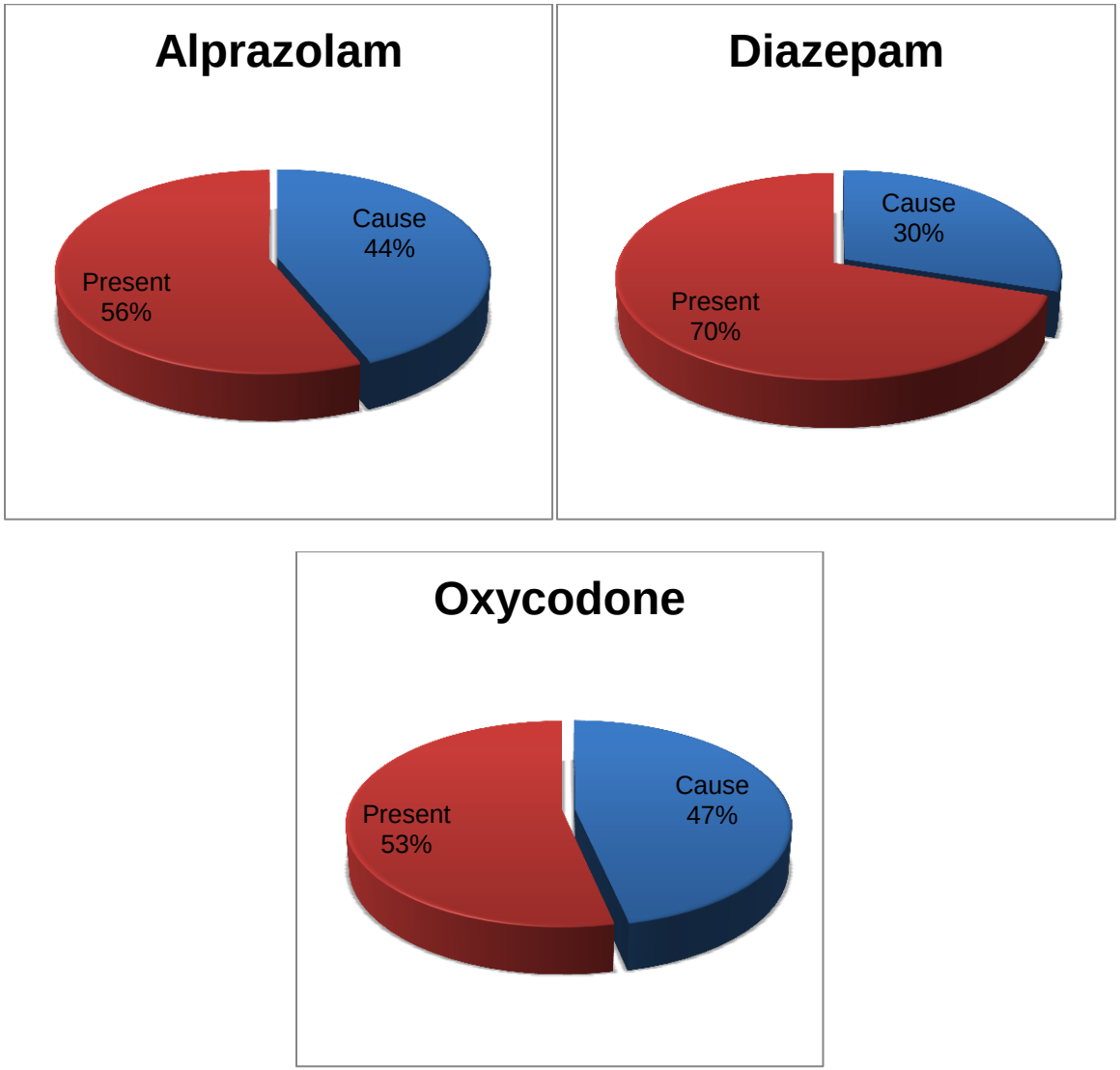
Medical Examiner District & Area of Florida		Total Deaths with Cocaine			Deaths with Cocaine Only			Deaths with Cocaine in Combination with Other Drugs		
District	Area of Florida	Total	Cause	Present	Total	Cause	Present	Total	Cause	Present
1	Pensacola	30	11	19	2	0	2	28	11	17
2	Tallahassee	9	2	7	0	0	0	9	2	7
3	Live Oak	4	1	3	1	0	1	3	1	2
4	Jacksonville	52	23	29	4	4	0	48	19	29
5	Leesburg	27	13	14	4	2	2	23	11	12
6	St. Petersburg	50	28	22	9	3	6	41	25	16
7	Daytona Beach	18	6	12	5	3	2	13	3	10
8	Gainesville	15	9	6	3	1	2	12	8	4
9	Orlando	83	38	45	19	9	10	64	29	35
10	Lakeland	19	10	9	6	2	4	13	8	5
11	Miami	107	47	60	21	10	11	86	37	49
12	Sarasota	20	11	9	3	2	1	17	9	8
13	Tampa	37	13	24	12	3	9	25	10	15
14	Panama City	9	2	7	0	0	0	9	2	7
15	West Palm Bch	71	40	31	7	5	2	64	35	29
16	Florida Keys	2	1	1	0	0	0	2	1	1
17	Ft. Lauderdale	51	36	15	10	9	1	41	27	14
18	Melbourne	26	16	10	8	5	3	18	11	7
19	Ft. Pierce	31	12	19	6	2	4	25	10	15
20	Naples	15	9	6	3	2	1	12	7	5
21	Ft. Myers	33	8	25	2	0	2	31	8	23
22	Port Charlotte	5	0	5	0	0	0	5	0	5
23	St. Augustine	0	0	0	0	0	0	0	0	0
24	Sanford	11	7	4	3	2	1	8	5	3
Statewide Totals		**725**	**343**	**382**	**128**	**64**	**64**	**597**	**279**	**318**

Cocaine Deaths by Age

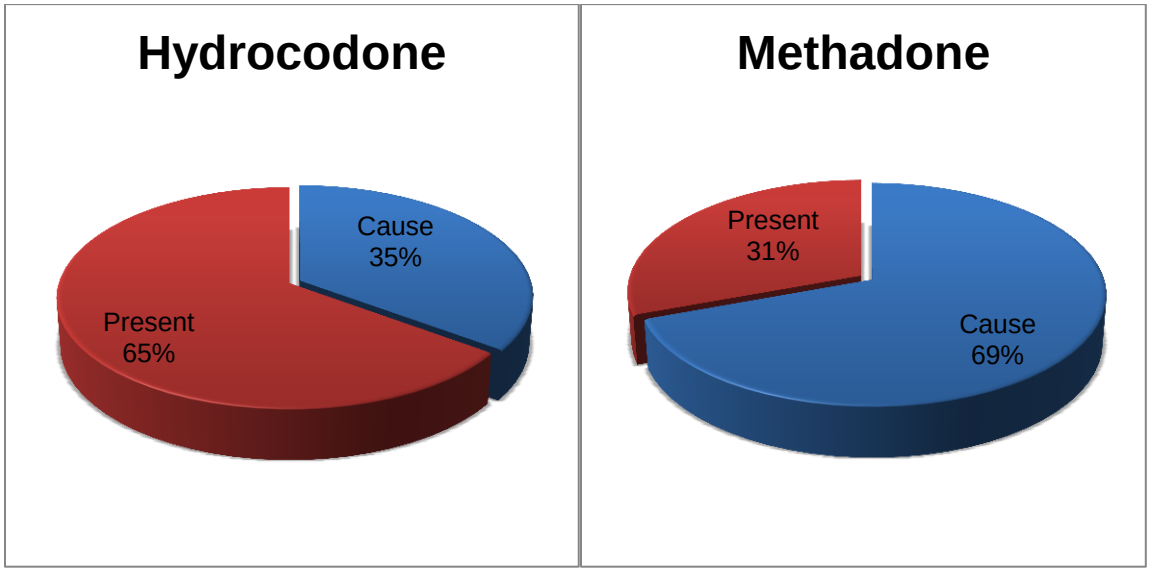
January – June 2014

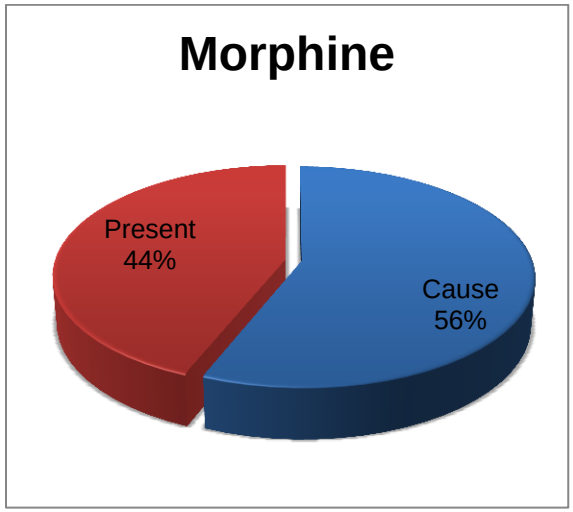
Medical Examiner District and Area of Florida			Cocaine Caused Death						Cocaine Present at Death					
			Age of Decedent						*Age of Decedent*					
District	Area of Florida	Total	Total	< 18	18-25	26-34	35-50	>50	Total	<18	18-25	26-34	35-50	>50
1	Pensacola	30	11	0	0	3	4	4	19	0	4	7	5	3
2	Tallahassee	9	2	0	0	1	1	0	7	0	2	3	1	1
3	Live Oak	4	1	0	0	0	1	0	3	0	0	0	2	1
4	Jacksonville	52	23	0	2	5	10	6	29	0	1	12	10	6
5	Leesburg	27	13	0	0	4	4	5	14	0	1	3	5	5
6	St. Petersburg	50	28	0	4	4	9	11	22	0	6	6	5	5
7	Daytona Beach	18	6	0	0	3	2	1	12	0	1	2	4	5
8	Gainesville	15	9	0	0	1	4	4	6	0	1	2	2	1
9	Orlando	83	38	0	3	9	11	15	45	1	4	17	16	7
10	Lakeland	19	10	0	0	2	4	4	9	0	3	1	2	3
11	Miami	107	47	0	5	12	13	17	60	1	4	17	22	16
12	Sarasota	20	11	0	0	2	6	3	9	0	2	4	1	2
13	Tampa	37	13	0	2	3	4	4	24	0	4	3	8	9
14	Panama City	9	2	0	0	0	1	1	7	0	1	3	1	2
15	West Palm Bch	71	40	0	6	8	11	15	31	0	4	8	14	5
16	Florida Keys	2	1	0	1	0	0	0	1	0	0	0	0	1
17	Ft. Lauderdale	51	36	0	4	10	13	9	15	1	2	3	6	3
18	Melbourne	26	16	0	1	2	6	7	10	0	1	1	3	5
19	Ft. Pierce	31	12	0	1	1	2	8	19	0	3	5	4	7
20	Naples	15	9	0	1	1	3	4	6	0	1	3	1	1
21	Ft. Myers	33	8	0	0	3	4	1	25	0	1	10	12	2
22	Port Charlotte	5	0	0	0	0	0	0	5	0	1	1	2	1
23	St. Augustine	0	0	0	0	0	0	0	0	0	0	0	0	0
24	Sanford	11	7	0	0	2	3	2	4	0	2	2	0	0
Statewide Totals		**725**	**343**	**0**	**30**	**76**	**116**	**121**	**382**	**3**	**49**	**113**	**126**	**91**

Drug Detected at Death: Cause vs. Present

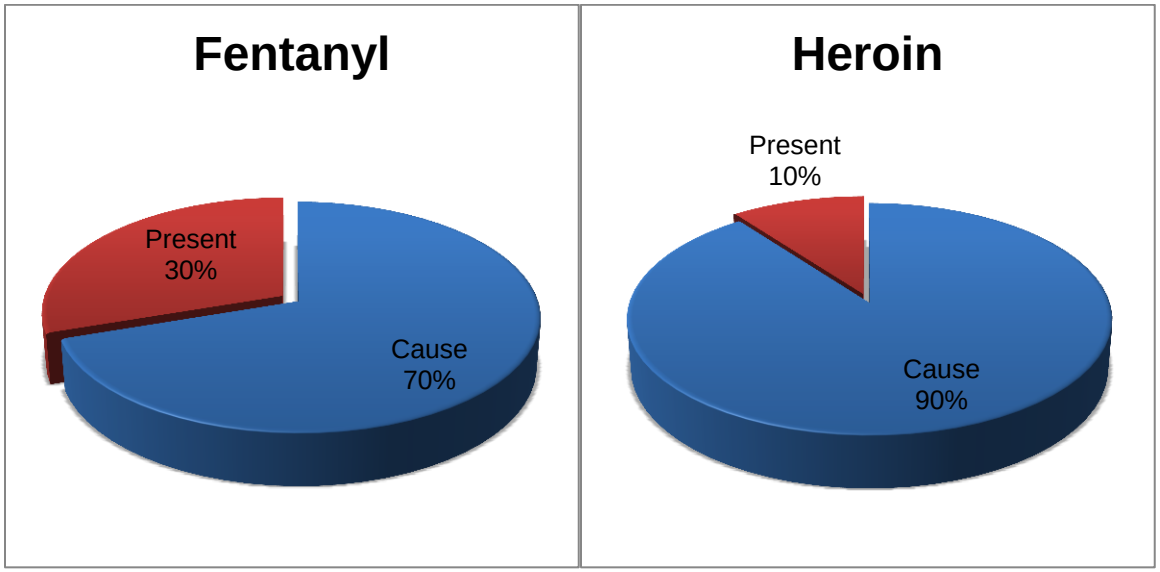


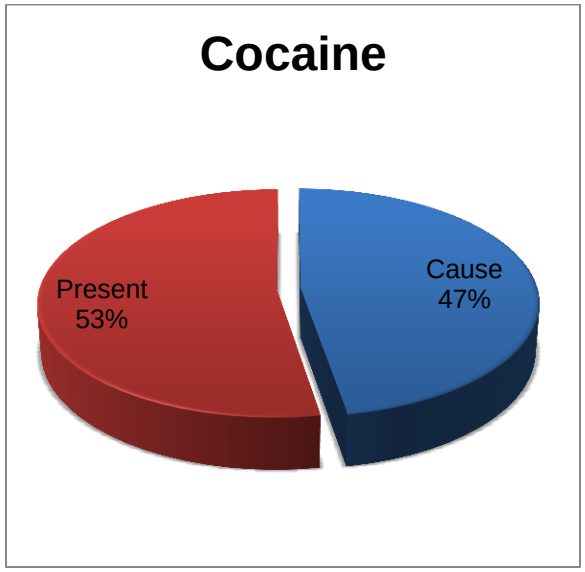
Drug Detected at Death: Cause vs. Present





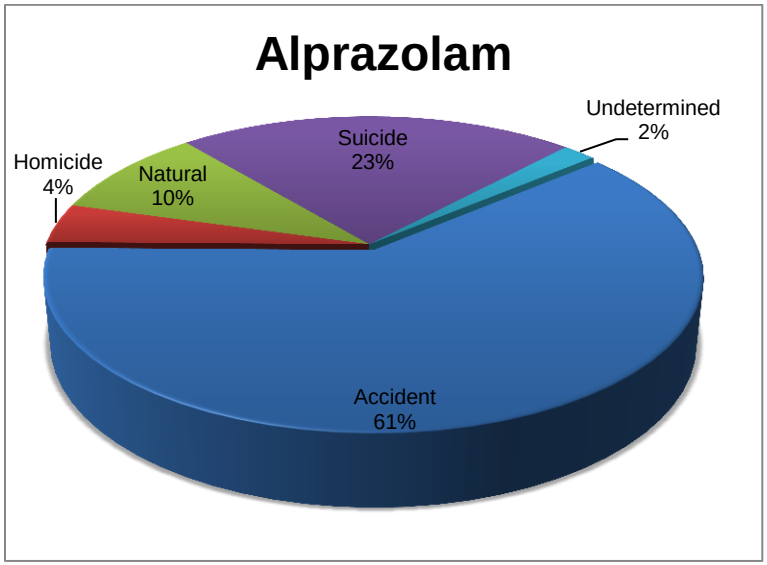
Drug Detected at Death: Cause vs. Present

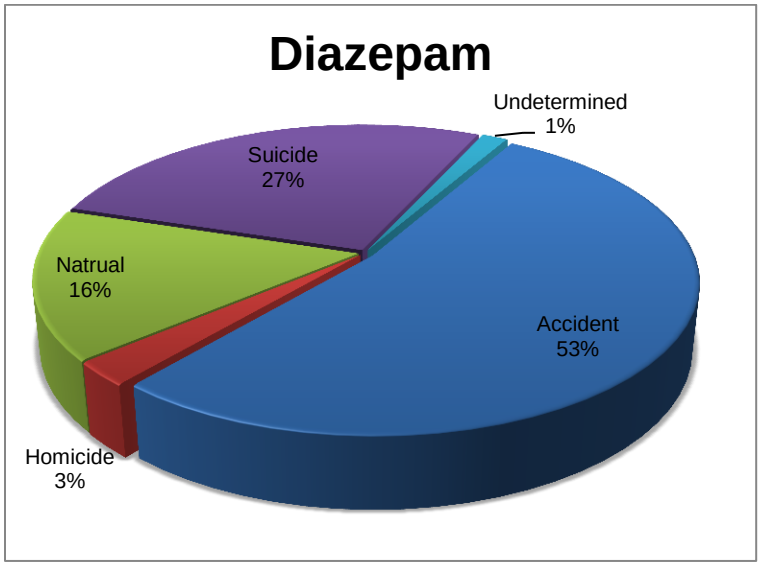


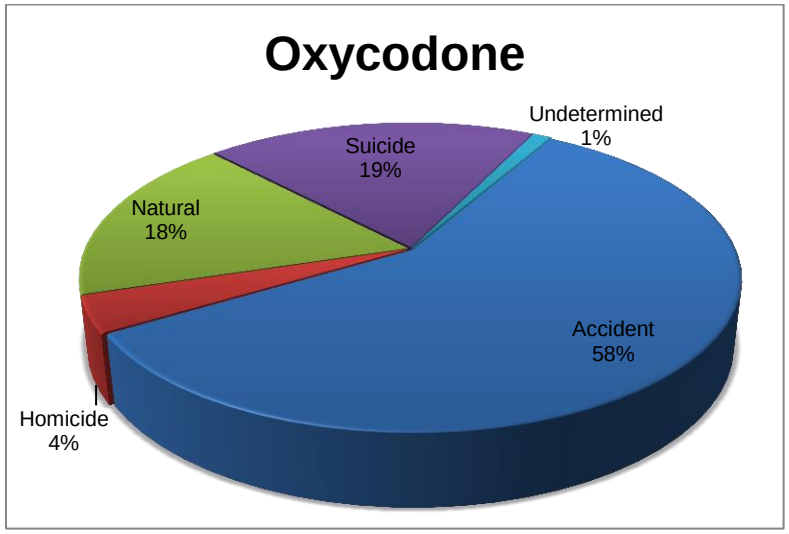


Manner of Death for Cases Reported

(Accident, Homicide, Natural, Suicide or Undetermined)

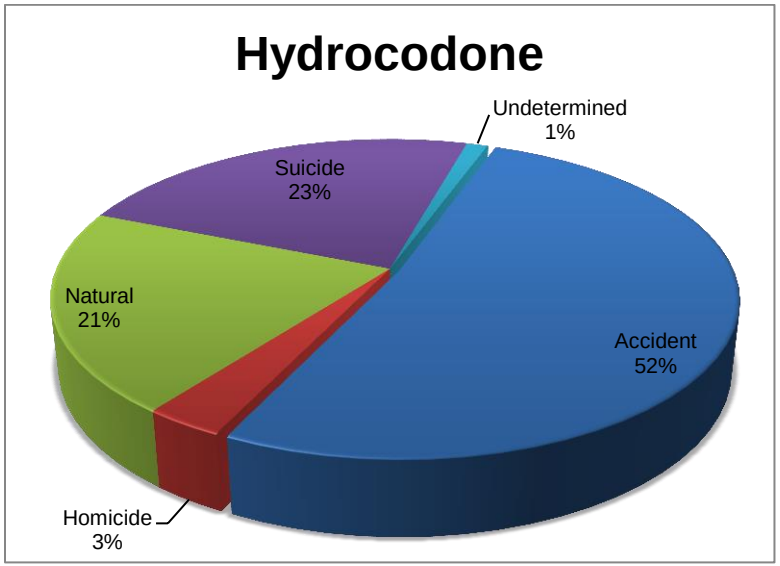


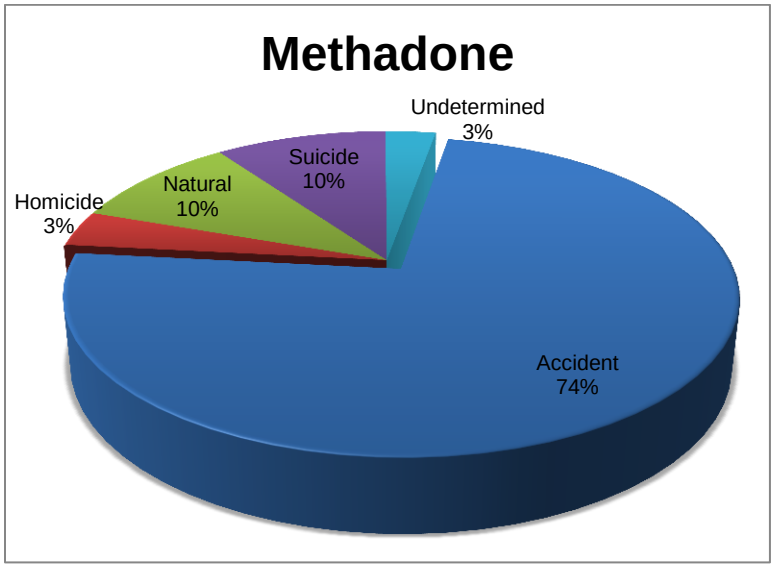


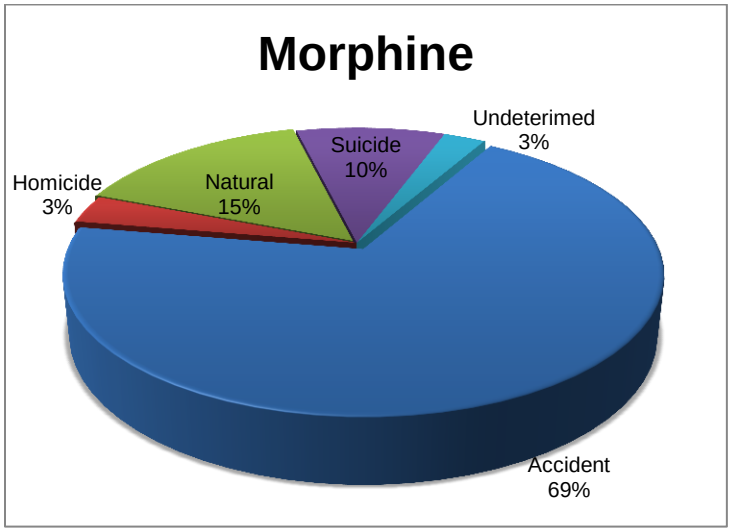


Manner of Death for Cases Reported

(Accident, Homicide, Natural, Suicide or Undetermined)

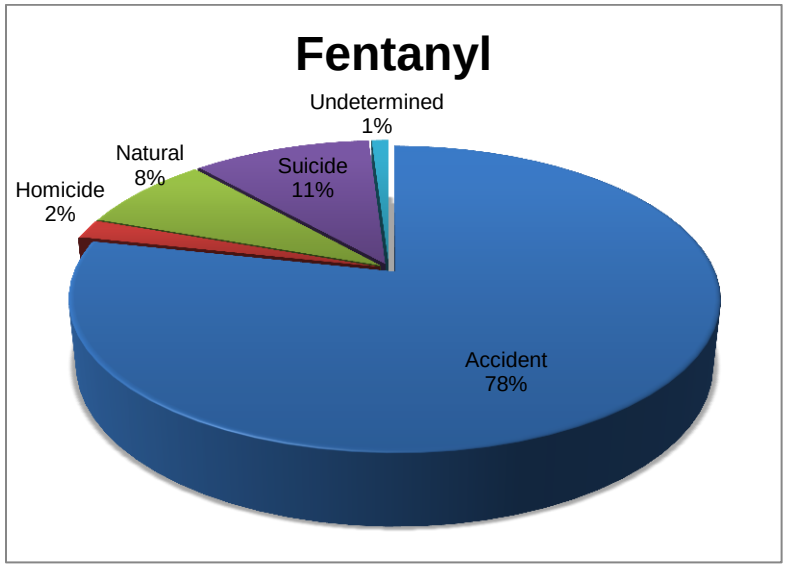


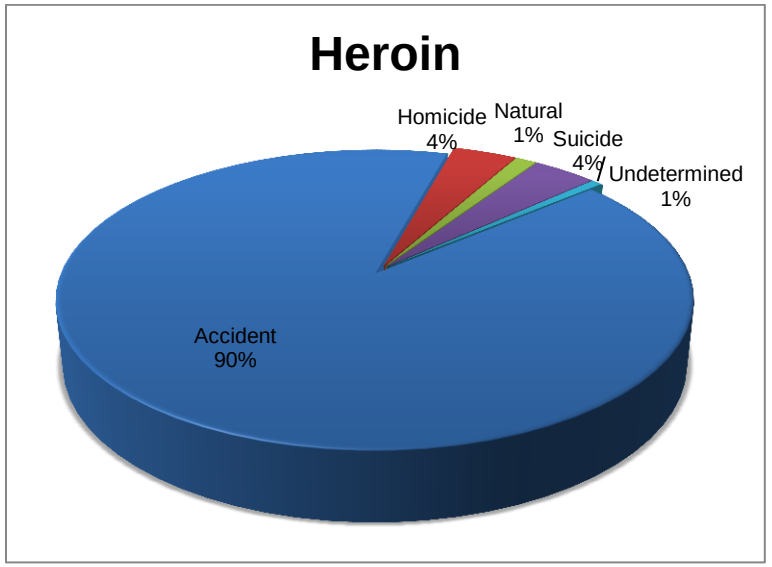


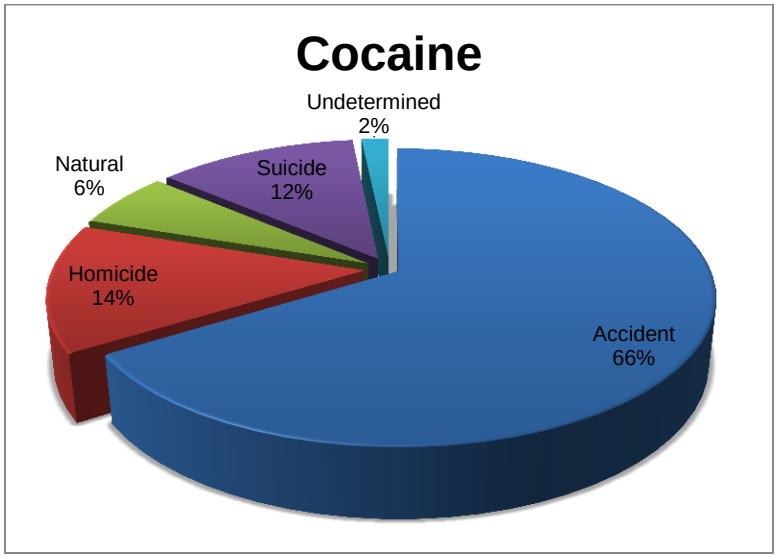


Manner of Death for Cases Reported

(Accident, Homicide, Natural, Suicide or Undetermined)







Glossary

Amphetamines – A group of synthetic psychoactive drugs called central nervous system (CNS) stimulants. The collective group of amphetamines includes amphetamine, dextroamphetamine, and methamphetamine. Methamphetamine is also known as “meth,” “crank,” “speed” and “tina.”

Benzodiazepines – A family of sedative-hypnotic drugs indicated for the treatment of stress, anxiety, seizures and alcohol withdrawal. Benzodiazepines are often referred to as “minor tranquilizers.” Xanax (Alprazolam) and Valium (Diazepam) are the most commonly prescribed drugs in this drug class.

Buprenorphine – A semi-synthetic opioid known as Buprenex, Suboxone, and Subutex indicated for the treatment of opioid addiction and moderate to severe pain.

Cathinones - a family of drugs containing one or more synthetic chemicals related to cathinone, an amphetamine-like stimulant found naturally in the Khat plant. They are 'cousins' of the amphetamine family of drugs, which includes amphetamine, methamphetamine and MDMA (ecstasy). It often goes by the street name of “Molly.”

Cannabinoids – A series of compounds found in the marijuana plant, the most psychoactive of which is THC, a strong, illicit hallucinogen. Street names for this drug are often associated with a geographic area from which it came but also include generic names like “ganja,” “MJ,” “ragweed,” “reefer” and “grass.”

Carisoprodol – Muscle relaxant indicated for the treatment of pain, muscle spasms and limited mobility. It is often abused in conjunction with analgesics for enhanced euphoric effect. It is marketed as Soma.

Cocaine – An illicit stimulant. Powdered cocaine goes by many street names including “C,” “blow,” “snow,” and “nose candy,” while freebase cocaine is mostly commonly known as “crack.”

Ethanol – ethyl alcohol.

Fentanyl – Synthetic opioid analgesic (pain killer) supplied in transdermal patches and also available for oral, nasal, intravenous and spinal administration. Fentanyl is also available illicitly.

Flunitrazepam (Rohypnol) – Commonly referred to as a “date rape” drug. It is a sedative-hypnotic drug in the Benzodiazepine class. It often goes by the street name “roofies.”

Glossary (Continued)

Gamma-Hydroxybutyric Acid (GHB) – A depressant, also known as a "date rape" drug. GHB often goes by the street name "easy lay," "scoop," "liquid X," "Georgia home boy" and "grievous bodily harm."

Hallucinogenic Phenethylamines/Piperazines – Includes such drugs as MDMA (Ecstasy, a hallucinogen), MDA (a psychedelic), MDEA (a psychedelic hallucinogenic) and Piperazine derivatives. Ecstasy has multiple street names including "E," "XTC," "love drug," and "clarity." MDMA is often also known by a large variety of embossed logos on the pills such as "Mitsubishis" and "Killer Bees."

Hallucinogenic Tryptamines – Natural tryptamines are commonly available in preparations of dried or brewed mushrooms, while tryptamine derivatives are sold in capsule, tablet, powder, or liquid forms. Street names include "Foxy-Methoxy", "alpha-O", and "5-MEO."

Halogenated Inhalants – Includes, but are not limited to, halogenated hydrocarbons, such as Freon, and similar halogenated substances typically used illicitly as inhalants.

Heroin – An illicit narcotic derivative. It is a semi-synthetic product of opium. Heroin also has multiple street names including "H," "hombre" and "smack."

Hydrocarbon Inhalants – Includes toluene, benzene, components of gasoline and other similar hydrocarbons typically used illicitly as inhalants.

Hydrocodone – A narcotic analgesic (pain killer). Vicodin and Lortab are two common drugs containing hydrocodone.

Hydromorphone – A narcotic analgesic (pain killer) used to treat moderate to severe pain. Marketed under the trade name Dilaudid, it is two to eight times more potent than morphine. Commonly used by abusers as a substitute for heroin.

Ketamine – An animal tranquilizer and a chemical relative of PCP. Street names for this drug include "special K," "vitamin K" and "cat valium."

Meperidine – A synthetic narcotic analgesic (pain killer) sold under the trade name Demerol, it is used for pre-anesthesia and the relief of moderate to severe pain.

Methadone – A synthetic narcotic analgesic (pain killer) commonly associated with Heroin detoxification and maintenance programs but it is also prescribed to treat severe pain. It has been increasingly prescribed in place of oxycodone for pain management. Dolophine is one form of methadone.

Glossary (Continued)

Morphine – A narcotic analgesic (pain killer) used to treat moderate to severe pain. MS (Morphine Sulfate), Kadian, and MS-Contin are the tablet forms; Roxanol is the liquid form.

Nitrous Oxide (N2O) – Also known as "laughing gas," this is an inhalant (gas) that produces light anesthesia and analgesia. "Whippets" are a common form of nitrous oxide.

Oxycodone – A narcotic analgesic (pain killer). OxyContin is one form of this drug and goes by the street name "OC." Percocet, Percodan, Roxicet, Tylox, and Roxicodone also contain Oxycodone.

Oxymorphone – A narcotic analgesic (pain killer), that is often prescribed as Opana, Numorphan and Numorphone.

Phencyclidine (PCP) – An illicit dissociative anesthetic/hallucinogen. Common street names for this drug include "angel dust," "ace," "DOA" and "wack."

Synthetic Cannabinoids – Synthetic cannabinoids are man-made chemicals that are applied (often sprayed) onto plant material to mimic the effect of delta-9-tetrahydrocannabinol (THC), the psychoactive ingredient in the naturally grown marijuana plant (cannabis sativa). Synthetic cannabinoids, commonly known as "synthetic marijuana", "Spice" or "K2", are often sold in retail outlets as "herbal incense" or "potpourri", and are labeled "not for human consumption."

Sympathomimetic Amines – A group of stimulants including phentermine (an appetite suppressant) and other sympathomimetic amines not tracked elsewhere in this report.

Tramadol – A synthetic narcotic analgesic sold under the trade name Ultram and Ultracet. Indications include the treatment of moderate to severe pain. It is a chemical analogue to Codeine. Not currently a scheduled drug.

Zolpidem – A prescription medication used for the short-term treatment of insomnia; it is commonly known as Ambien.