NAMSDL

National Alliance for Model State Drug Laws

Pseudoephedrine Prescription Laws in Oregon and Mississippi

A Study of the Current Methamphetamine Landscape

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Executive Summary

This report is an in-depth review of the current methamphetamine (meth) landscape in Oregon and Mississippi. Its intent is to provide the National Alliance for Model State Drug Laws (NAMSDL) with the information necessary to consider any model legislation expanding pseudoephedrine (PSE) prescription laws to the national level. Oregon and Mississippi are the focus, because they are the only two states to have passed such laws in recent years (2006 and 2010, respectively). The research team reviewed the current literature on the subject, reviewed meth- and precursor-related laws in Oregon, Mississippi, and their surrounding states, and investigated trends in traditional drug problem indicators (availability and supply, illicit substance use, treatment admissions, drug-related arrests and other criminal activity, and drug-related mortality) for the time period before and after the PSE prescription laws were implemented.

The effects of these laws on the number of lab incidents have been studied in recent years, but those studies yielded mixed and inconclusive results. While there is no doubt that the number of meth lab incidents decreased in both Oregon and Mississippi after the laws were implemented, the underlying explanatory factors about the decline remain arguably unknown. Aside from the decrease in meth lab incidents, the research team noted the following trends regarding drug problem indicators:

Availability

- Meth is now considered the most significant drug threat in Oregon and the second most significant drug threat in Mississippi, after cocaine.

Use

- Estimated past-year meth use has remained stable over the 2004-2013 period in Oregon, Mississippi, and their surrounding states. Meth is used less frequently than marijuana, cocaine, and nonmedical use of pain relievers.
- In both Oregon and Mississippi, the number of treatment admissions where the primary drug of abuse is meth peaked in 2005, decreased until 2009, and has increased since. The proportion of all treatment admissions that are meth has followed this same trend.

Crime

- In Oregon, arrests for meth crimes total more than crimes for cocaine, heroin, and marijuana *combined.*
- Overall, since 2006, the states surrounding Oregon have seen a decrease in arrests for drug abuse violations and for the number of reported violent and property crimes. However, there have been very slight increases in the number of property crimes since 2010.
- Since 2009, there have been decreases in the number of arrests for meth-related offenses and all drug abuse violations in Mississippi.
- Mississippi has violent and property crime rates far lower than its surrounding states.

Meth-Related Deaths

- In Oregon, the number of meth-related deaths has been increasing since 2007, with numbers reaching their highest levels in 2014. Meth has now surpassed heroin as the leading drug causing death in the state.
- Fatal meth-related overdoses in Mississippi remained consistently low throughout the examined time frame, fluctuating from 12 to 18 fatal overdoses per year. Surrounding states do not show any discernable regional trends with regards to meth-related deaths.

The research team concluded that the relationship between the PSE prescription laws and the decline in meth lab incidents is spurious for the following reasons:

- Similar decreases in the number of meth lab incidents occurred in surrounding states for both Oregon and Mississippi, suggesting a regional trend as opposed to a unique event in each of the two states, and making the case for the laws' impact even less significant.
- All traditional drug problem indicators (use, treatment admissions, arrests, and drug-related deaths) point to meth as a great threat in both states, especially Oregon.
- Lab incidents were reduced before the passage of the PSE prescription law in Oregon.
- Law enforcement agencies in Oregon and Mississippi report that meth supply has remained plentiful throughout the study period, with meth imported from Mexico making up for any lost domestic meth production.
- It is possible that that the decline in labs was due more to outside sources of supply than to the passage of PSE prescription legislation. Mexican traffickers may have contributed to the decline in meth labs in Mississippi and Oregon (and surrounding states) as they were able to provide ample supply of equal or greater quality meth at competitive prices.

It is recommended that, if NAMSDL is considering developing any model legislation expanding PSE prescription laws to the national level, it should delay doing so until several uncertainties can be addressed. NAMSDL should investigate the following areas before taking any further action: (1) the rationale behind the development of the PSE prescription laws in Oregon and Mississippi; (2) the true determinants of the decline in meth labs in Mississippi, Oregon, and their neighboring states; and (3) the extent to which the law has affected doctor prescribing practices, licit consumers, and the overall health care system.

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Overview

In July 2006, Oregon became the first state to require a prescription for products containing pseudoephedrine and ephedrine, such as cold and allergy medications. Mississippi implemented a similar law in 2010. Both states experienced substantial reductions in the number of methamphetamine (meth) lab seizures shortly their respective laws went into effect. At the time, these reductions were considered short-term markers of the laws' success. However, lab seizures are only part of the picture and cannot be used to assess the success or failure of a policy without additional data. Variables such as prevalence estimates, treatment admissions, mortality rates, arrests, and other consequence statistics must also be considered when assessing the true magnitude of a state's meth problem.

This study is an in-depth review of the current meth landscape in Oregon and Mississippi. Trends concerning meth availability and supply, meth and other illicit substance use, meth treatment admissions, drug-related arrests and other criminal activity, and drug-related mortality were investigated for Oregon and Mississippi. This study considers the time period before and after pseudoephedrine (PSE) prescription laws were implemented, ending with the most current year for which data are available. The study did not aim to conduct any rigorous statistical analysis to determine statistical significance between any differences or relationships found. Analysis of that type may be the subject of future studies. The current study presents several short literature reviews and a lengthy presentation of data trends to help NAMSDL can make informed decisions about future meth legislation.

Background

First developed in 1919, methamphetamine (meth) is "a highly addictive drug with potent central nervous system stimulant properties" (NASCA, 2012) that has become widely abused in the United States and worldwide over the past 40 to 50 years. SAMHSA estimates that, in 2013, there were 12.3 million individuals age 12 or older in the U.S. who had used meth at least once in their lives, 1.2 million individuals who had used meth at least once in the past year, and 595,000 individuals who had used meth at least once in the past 30 days (NSDUH, 2014). While the 2013 lifetime and past-year estimates were similar to those in 2012, the 2013 past-30 days figure increased significantly from 440,000 in 2012 (NSDUH, 2014). Of the 1.2 million individuals with past-year use, 144,000 were individuals trying meth for the first time (NSDUH, 2014). In 2005, RAND estimated that the total economic cost of meth abuse in the U.S. had reached $23.4 billion (Nicosia et al., 2009).

Although originally used as a war-time stimulant for soldiers and later in the treatment of a variety of conditions (including heroin and cocaine addiction), meth became widely diverted and abused due to the feelings of euphoria it produces after use (NASCA, 2012). Continued use/abuse of meth is associated with numerous harmful conditions, including weight loss, paranoia, hallucinations, stroke, and convulsions, while chronic abuse can lead to psychosis and irreversible damage to the brain and heart (NASCA, 2012). In 1971, the U.S. Drug Enforcement Administration (DEA) listed meth as a Schedule II controlled substance.

In addition to the direct damage meth does to individuals who use it, meth has serious negative effects on the environment and surrounding individuals, particularly children. Meth production runs the

substantial risk of producing volatile chemical reactions that can cause explosions, fires, and chemical burns, while successful reactions produce large amounts of toxic waste. The DEA estimates that every pound of meth produced causes five to six pounds of toxic waste production, which is often indiscriminately disposed of in the surrounding environment to avoid detection by law enforcement (GAO, 2013). Additionally, children who come into close contact with a meth lab (including living at or visiting a location near a lab) face significant risks to their health and safety, including potential exposure to toxic waste as well as abuse or neglect. The DEA reports that meth labs directly affected 21,000 children from 2002 to 2011 (GAO, 2013).

Unlike many other controlled substances, such as heroin or cocaine, individuals without significant training or equipment may produce meth relatively easily by combining common household products. The most common form of domestically produced meth is dextrorotatory methamphetamine (d-meth), which contains pseudoephedrine (PSE) as a core ingredient. Using substances such as lithium from lithium batteries, ammonia nitrate from cold packs, ether from engine starters, and water, individuals may alter the chemical structure of PSE to produce d-meth. This alteration may occur through a process as simple as mixing all the ingredients together in a plastic bottle and letting it sit for a few hours (GAO, 2013). The current meth market in the United States is supplied by meth produced in small domestic labs, meth produced in domestic "super labs" using diverted bulk PSE from the U.S. or Canada, and meth imported from Mexico as a finished product (ONDCP, 2012).

There are other forms of meth that can be produced using a core ingredient other than PSE; however, they are generally less potent than d-meth (GAO, 2013). According to the DEA, only 0.05 percent (26 total) of the domestic meth labs seized from 2008 through 2011 were producing forms of meth that do not use PSE (GAO, 2013). Due to its importance in the production process, legislative action to address meth production has focused on reducing PSE diversion. These actions are described in this report.

Methodology

The study examined statistics unique to Oregon and Mississippi over their respective time periods. Despite their similarities, the states should not be compared with one another, as states may not have uniform reporting requirements or definitions. For Oregon, the "before" time period was considered 2004-2005, while the "after" period was considered 2007-present. For Mississippi, the "before" time period was considered 2004-2009, while the "after" period was 2011-present. For both states, the year 2004 was considered the starting point because it allowed for ten years' worth of data, in most cases. When available, the research team also reviewed matching variables for neighboring states to assess whether any displacement or similar trends occurred over the study period. For Oregon, the research team considered Washington, California, Idaho, and Nevada. For Mississippi, the team considered Louisiana, Arkansas, Tennessee, and Alabama.

The following questions were explored to determine if the PSE prescription laws in Oregon and Mississippi continue to have their intended effect since implementation:

- What are the current meth use rates?
- What are the current use rates for other illicit substances?

- Have these use rates changed over the study period?
- Have arrest rates for meth changed over the study period?
- Have arrests and reported meth-related crimes changed over the study period (e.g., property crimes, violent crimes)?
- Are there any trends in meth-related consequences over the study period (e.g., overdose, mortality)?
- Are there any relationships among any of the above listed variables?
- Have there been similar data trends in neighboring states?
- Are there any other activities that have been ongoing during the study period that could contribute to reductions in the above listed variables?

The study also intended to include a qualitative component, in which the research team would have discussions with law enforcement, treatment, corrections, and medical examiner representatives from each state. However, this task proved daunting as very few of the individuals contacted were willing to discuss their experiences. Only three conversations occurred. It is recommended that qualitative data collection be conducted in future studies. Such qualitative information will help tell the "story" that data alone cannot. In addition, qualitative information of this sort may provide up-to-date insight that is too recent to be reflected in the available quantitative data. Qualitative information may also help determine whether there are factors unique to Oregon and Mississippi that contribute to their success or failure.

Table 1 presents the data sources used to inform the study. The majority of data are publically available—meaning, the research team pulled the data from online sources. Some state-specific data were received directly from state agencies, which are also indicated in Table 1. Data in the report are presented as raw numbers and percentages or proportions. The conversion to percentages and proportions were necessary for regional comparison purposes. Meth overdose data from the Centers for Disease Control WONDER database required more steps to calculate than other variables. This process is described in more detail below.

Table 1: Data Sources Used for OR-MS PSE Prescription Law Study

Variable	Data Source	Years Available
Methamphetamine Lab Incidents	Drug Enforcement Administration	2004-2014
Methamphetamine Use*	National Survey on Drug Use and Health	2005, 2009, 2013
Other Illicit Drug Use	National Survey on Drug Use and Health – State Estimates	2004-2013
Primary Treatment Admissions for Methamphetamine	Treatment Episode Data Set	2004-2013
Arrests for Drug Crimes by Drug Type (Oregon)	Oregon Criminal Justice Commission	2007-2014
Methamphetamine Violations, by type (Oregon)	Oregon Criminal Justice Commission	2007-2014
Arrests for Methamphetamine-Related Offenses (Mississippi)	Mississippi Bureau of Narcotics	2007-2014
Arrests for Drug Abuse Violations	Federal Bureau of Investigation, Uniform Crime Reports	2004-2013
Reported Violent and Property Crimes	Federal Bureau of Investigation, Uniform Crime Reports	2004-2012
Number of Methamphetamine-related Deaths (Oregon)	Oregon State Medical Examiner	2004-2014
Estimated Fatal Methamphetamine-Related Overdoses	Centers for Disease Control and Prevention, WONDER	2004-2013

*Methamphetamine use statistics were created from a special request data run executed by the Substance Abuse and Mental Health Services Administration, as these statistics are not broken out in the publically available data. Three data points of pooled averages for 2002-2005, 2006-2009, and 2010-2013 were provided.

Calculating Fatal Meth Overdoses

There is currently no national database of meth overdose data and most states either do not collect such data or do not make such data available to the public. The closest approximate to a national database is the Center for Disease Control and Prevention's (CDC) Wide-ranging Online Data for Epidemiologic Research (WONDER) system, which provides data on the underlying cause of death for all reported mortalities. The WONDER system uses ICD-10 codes to record mortalities, and the ICD-10 does not have specific codes for fatal drug overdoses. However, approximately 95 percent of meth overdoses receive a coding within one of five code series: (1) "Accidental poisonings" (ICD-10: X40-49), (2) "Poisonings of undetermined intent" (ICD 10: Y11-Y19), (3) "Intentional self-poisoning"(ICD 10: X60-X69), (4) "Hypertensive and heart diseases"(ICD 10: I10-I15, I20-I25, I30-I51), or (5) "Mental and

behavioral disorder due to psychoactive substance use" (ICD 10: F10-F19) (Calcaterra & Binswanger, 2013).

Furthermore, within four of these five code series, all meth overdoses (along with certain other causes of death) are directed to be under one specific code: (1) X41 Accidental poisoning by and exposure to antiepileptic, sedative-hypnotic, antiparkinsonism and psychotropic drugs, not elsewhere classified; (2) X61 Intentional self-poisoning by and exposure to antiepileptic, sedative-hypnotic, antiparkinsonism and psychotropic drugs, not elsewhere classified; (3) Y11 Poisoning by and exposure to antiepileptic, sedative-hypnotic, antiparkinsonism and psychotropic drugs, not elsewhere classified, undetermined intent; or (4) F15 Mental and behavioral disorders due to psychoactive substance use - Other stimulant related disorders (WHO, 2004).

The fatal meth overdose data presented in this report was calculated by aggregating the data from each of these four codes by state for each relevant year. This information is only intended to be an approximate estimate of the true level of fatal meth-related overdoses. There are two primary concerns with this method of calculation: (1) Not all fatal meth-related overdoses fall within those four codes and (2) Those four codes include deaths with underlying causes other than meth.

However, these concerns should be somewhat mitigated by (1) the fact that, if mortalities are being correctly reported, these four codes should cover slightly over 90 percent of all fatal meth overdoses (Calcaterra & Binswanger, 2013) and (2) that there may not be many non-meth-related fatalities within these codes. For instance, the code ICD 10: F15 is only for amphetamine and caffeine-related fatal overdoses. Still, because of these concerns and the discrepancy between the number of fatal meth-related overdoses in Oregon calculated in this manner compared to the number of meth-related deaths reported by the Oregon State Medical Examiner (Figure 22 and Figure 23), these numbers should only be used for internal comparison purposes and not compared with outside data or presented as the true level of fatal meth-related overdoses.

The Regulatory Landscape: Current Precursor Laws

This section provides background on meth precursor policy actions taken by Oregon, Mississippi, and the states surrounding them (for Oregon: California, Idaho, Nevada, and Washington; for Mississippi: Alabama, Arkansas, Louisiana, and Tennessee) to address meth production. Both Mississippi and Oregon reclassified pseudoephedrine (PSE) as a Schedule III controlled substance, making it only available by a physician's prescription. As none of the surrounding states have implemented such laws, reviewing their own actions to address meth production and comparing changes in meth production indicators across states will help illustrate the effect of PSE prescription-only laws. This section also provides a brief history of federal restrictions and other state approaches to stop meth production using PSE.

Federal Restrictions

Large-scale federal restrictions on meth precursor drugs began with the Chemical Diversion and Trafficking Act (CDTA) of 1988, which amended the Controlled Substances Act (CSA) of 1970 to implement record-keeping requirements for all individuals involved in transactions of bulk, pure PSE or ephedrine (NASCA, 2012). CDTA did not apply to over-the-counter (OTC) medications or other products

containing meth precursors. However, its record-keeping requirements helped track bulk substances and prevent their diversion. Studies found that the law had a moderate impact on domestic production and availability of meth (NASCA, 2012).

In 1993, the Domestic Chemical Diversion Control Act (DCDCA) altered the CDTA to remove record-keeping exemptions involving pure ephedrine and added provisions to the CSA that require distributors, importers, and exporters of bulk PSE or ephedrine to obtain U.S. Drug Enforcement Administration (DEA) registrations (NASCA, 2012). The Comprehensive Methamphetamine Control Act (MCA) of 1996 marked the start of federal regulation of OTC medications containing PSE or ephedrine, adding meth precursor chemicals containing those substances or phenylpropanolamine (PPA) to Schedule II of the CSA (NASCA, 2012). The law waived most of the CSA's usual Schedule II restrictions, allowing ordinary sales from retailers for personal use to remain unregulated (HR3852, 1996). MCA also increased the penalties for producing or trafficking meth (NASCA, 2012). Studies found that, while DCDCA substantially reduced domestic meth production and availability, MCA had more mixed success, with MCA's PSE provisions being significantly more successful than its ephedrine section (NASCA, 2012).

Federal regulation of OTC medications containing meth precursors expanded with the Methamphetamine Anti-Proliferation Act (MAPA) of 2000, which placed a per transaction limit of 9 grams on OTC medications containing PSE, ephedrine, or PPA (NASCA, 2012). MAPA also prohibited such medications from containing more than 3 grams of precursor chemical per package; although, medication in "blister" packaging was exempt from this requirement. Unexpectedly, researchers found that average meth prices fell and purity rose after MAPA's implementation—the opposite of what was intended. Researchers have posited that this was a result of increased international meth production replacing domestic production (NASCA, 2012).

The most recent federal development is the Combat Methamphetamine Epidemic Act (CMEA) of 2005, contained within the USA PATRIOT Improvement and Reauthorization Act of 2005 (Public Law 109-177). The CMEA implemented new pseudoephedrine sales restrictions, the three primary provisions of which are: (1) requiring pharmacies/dispensers to place products containing pseudoephedrine behind counters or in locked cabinets to prevent unsupervised access; (2) amending MAPA to set a daily sales limit of 3.6 grams of pseudoephedrine per customer and a monthly limit of 9 grams per customer; and (3) requiring pharmacies/dispensers to maintain a logbook recording all sales of pseudoephedrine products and the verified identity of purchasers (GAO, 2013).

State-Level Restrictions

Many states affected by meth abuse have also implemented laws to better regulate meth precursor chemicals, such as PSE. The most common approach is electronic tracking of OTC sales of medications containing meth precursors. This tracking is designed to ensure that CMEA sales limits are enforced. These tracking systems usually contain mechanisms to automatically block restricted sales, with a sales clerk override in place for situations involving violence (NASCA, 2012). As of 2012, 20 states had implemented such systems (AL, AR, FL, IL, IN, IA, KS, KY, LA, MI, MO, NC, NE, ND, OK, SC, TX, TN, WA, and WV), with 17 of those states (AR, OK, and WV are the exceptions) using the National Precursor Log

Exchange (NPLEx), a real-time electronic logging system used by pharmacies/dispensers and law enforcement (NASCA, 2012).

In addition to electronic tracking, 11 states (AR, IA, IL, KS, LA, MN, MO, NM, OK, WI, and WV) reclassified PSE as a Schedule V controlled substance, implementing additional tracking requirements on the sale of products and limiting the sale of such products to licensed pharmacies (NASCA, 2012). In 2004, Oklahoma became the first state to reclassify PSE; however, an early study found no evidence that the reclassification affected meth use or availability (Brandenburg et al, 2007). Meanwhile, 5 states (AK, IA, IN, MN, and WI) implemented sales restrictions that are more stringent than CMEA's provisions. Uniquely, Oklahoma also approved a law preventing individuals with previous meth-related convictions from purchasing OTC medications containing meth precursor chemicals (NASCA, 2012).

Finally, as discussed in detail below, Arkansas, Mississippi, and Oregon, implemented laws requiring at least some individuals to obtain a prescription prior to purchasing medications containing PSE. In Missouri, 63 localities implemented ordinances with similar requirements since 2009, although no statewide law exists. Similarly, some Tennessee cities also implemented prescription ordinances in 2012 (CDC, 2013). In 2013, 18 state legislatures introduced PSE prescription-only bills; however, none became law (CDC, 2013).

Oregon and Surrounding States

In 2005 (effective in 2006), Oregon became the first state to implement a law (HB2485) requiring individuals to obtain a prescription to access medications containing ephedrine, PSE, or PPA. Like Mississippi's law, Oregon's law reclassified those chemicals as Schedule III controlled substances (NASCA, 2012). The law came in response to rising domestic meth production and was designed to stop local production by shutting down meth labs, not necessarily to reduce overall meth availability (ODEC, 2011). Prior to the law, Oregon had not implemented any other laws specifically addressing PSE diversion.

Because Oregon did not implement a prescription drug monitoring program until 2011, data are not available regarding the law's immediate effect on the number of units sold for products containing pseudoephedrine. However, it is well documented that the number of meth lab incidents decreased substantially after the law's passage. This phenomenon will be described in greater detail later in the report. Other effects reported upon passage of the law include: reduced workload demands for local law enforcement related to meth labs; decreased meth lab cleanup costs; and very few, if any, reports of drug-endangered children (GAO, 2013). Despite these improvements, state officials note that meth is still widely available and trafficked throughout Oregon, with meth seizures increasing each year since 2010 (Oregon HIDTA, 2015).

Neither California, Idaho, Nevada, nor Washington implemented laws requiring a prescription to obtain medications or other substances containing pseudoephedrine. Beginning in 2011, Washington became one of 17 states using NPLEx to track OTC sales of medications containing meth precursors, including pseudoephedrine (NASCA, 2012). Despite not adopting the system statewide, some retailers in California, Idaho, and Nevada have adopted a modified version of NPLEx, known as MethCheck, to meet

CMEA tracking requirements. None of the four states adopted more stringent sales limitations than the CMEA nor are any among the 11 states that reclassified pseudoephedrine as a Schedule V controlled substance (NASCA, 2012).

DEA meth lab incident trends in the four states surrounding Oregon mirror Oregon's rather than the national trend—remaining low after their initial decrease, rather than rising again beginning in 2008 (DEA, n/d). Law enforcement officials in Oregon note that, in every meth lab incident that has occurred since its prescription-only law was implemented where the source of PSE could be traced, the PSE originated from one of the four surrounding states (GAO, 2013).

Mississippi and Surrounding States

Mississippi implemented its requirement that individuals obtain a prescription prior to purchasing any medication or other substance containing PSE/ephedrine through a 2010 bill (HB512) that reclassified those drugs as Schedule III controlled substances (GAO, 2013). Prior to the law, Mississippi had not implemented any significant state restrictions on meth precursor chemicals, and the new law was the state's response to the growth in DEA meth lab incidents (DOJ, 2011).

The law's effect on access to pseudoephedrine was immediate, with the total number of units of products sold containing pseudoephedrine decreasing from 749,000 in 2009 to 480,000 in 2010 (when the law was in effect for half the year) and then to 191,000 in 2011 (GAO, 2013). Despite this decrease and the new requirements placed upon prescribers and dispensers, there is no evidence that the law increased workload demands for health care providers, and few consumer complaints about access (GAO, 2013). As with Oregon, law enforcement officials reported reduced workload demands related to meth labs and meth lab incidents in the state decreased substantially, as did the number of drug-endangered children and meth lab clean-up costs (NASCA, 2012; GAO 2013).

Though Alabama, Arkansas, Louisiana, and Tennessee have not implemented prescription-only laws as widespread as Mississippi's, Arkansas approved a law in 2011 (SB437) that requires individuals without an Arkansas- or U.S. Department of Defense (DOD)-issued identification to obtain a prescription prior to purchasing medications or other substances containing pseudoephedrine (NASCA, 2012). Alabama implemented a similar law, which requires individuals that live in a state where a prescription is required to purchase PSE (e.g., Mississippi or Oregon) to provide a prescription to purchase such products in Alabama (GAO, 2013).

Meanwhile, Alabama, Louisiana, and Tennessee are among the 17 states using NPLEx to track OTC sales of medications containing meth precursors, including pseudoephedrine (NASCA, 2012). Louisiana began using NPLEx in June 2010, while Alabama began in January 2011 and Tennessee in January 2012. Arkansas adopted its own electronic tracking system, MethMonitor, in 2006 to meet CMEA tracking requirements (GAO, 2013).

Arkansas is also one of five states that implemented more stringent sales restrictions than CMEA's provisions, limiting individuals to 7.5 grams per month of products containing pseudoephedrine (NASCA, 2012). Additionally, Arkansas and Louisiana are among 11 states that reclassified pseudoephedrine as a Schedule V controlled substance, implementing additional tracking requirements and limiting the sale of

such products to licensed pharmacies. As described elsewhere, DEA meth lab incident trends in the four states mirrored the national trends. However, law enforcement officials note that meth use and availability remains high throughout the region (DOJ, 2011).

Availability and Clandestine Methamphetamine Labs

It has been widely documented that the number of clandestine meth labs incidents in both states were significantly reduced after Oregon and Mississippi implemented their PSE prescription laws (GAO, 2013; NASCA, 2012; Gulf Coast HIDTA, 2015; Oregon HIDTA, 2015). Data for both states exhibit this phenomenon, and law enforcement officers from both states support these claims (GAO, 2013). However, there is a lack of consensus in the literature concerning causality and the laws' true impact. For both Oregon and Mississippi, not only did the number of lab incidents in those states drop after the laws' implementation, lab incidents declined in surrounding states as well. Several possible explanations for these occurrences have been posited and are discussed in more detail below. In general, we noted the following trends in availability:

- In Oregon, there was a 99 percent decrease in the number of lab incidents, from 632 in 2004 to 7 in 2014. However, the majority of these declines occurred before the PSE prescription law was fully implemented, between 2004 and 2006.
- Similar decreases in the number of lab incidents occurred in Oregon's surrounding states during the same time period, suggesting a regional trend.
- Meth is considered the most significant drug threat in Oregon.
- In Mississippi, lab incidents decreased 64 percent immediately following the implementation of the PSE prescription law, from 912 to 321. These decreases have continued since the law's implementation, reaching an all-time low of 2 incidents in 2014.
- The same basic lab incident trends occurred in Mississippi's surrounding states. With the exception of Tennessee, all states experienced at least an 85 percent reduction in the number of lab incidents between 2004 and 2014.
- Meth is considered the second most significant drug threat in Mississippi, after cocaine.

Oregon and Surrounding States

The number of meth lab incidents in Oregon has plummeted in the past ten years. As Figure 1 illustrates, from 2004 to 2014, there has been an astounding decrease from 632 incidents per year in 2004 to 7 incidents per year in 2014. However, this progress is not solely due to the restrictions implemented by the PSE prescription law. The vast majority of these declines occurred between 2004 and 2005, when the number of labs decreased from 632 to 232, and between 2005 and 2006, when the number of labs decreased from 232 to 66. These data show that most of the substantial reduction (89% decrease) occurred before the prescription-only law was implemented. Further, as Figure 2 shows, this reduction in lab incidents occurred in all states bordering Oregon: Washington, California, Idaho, and Nevada. In fact, all five states experienced at least a 95 percent decrease in the number of meth lab incidents throughout the 2004 – 2014 period. These commonalities show evidence of a regional trend that has yet to be identified or confirmed.

Figure 1: Number of Methamphetamine Lab Incidents in Oregon: 2004-2014

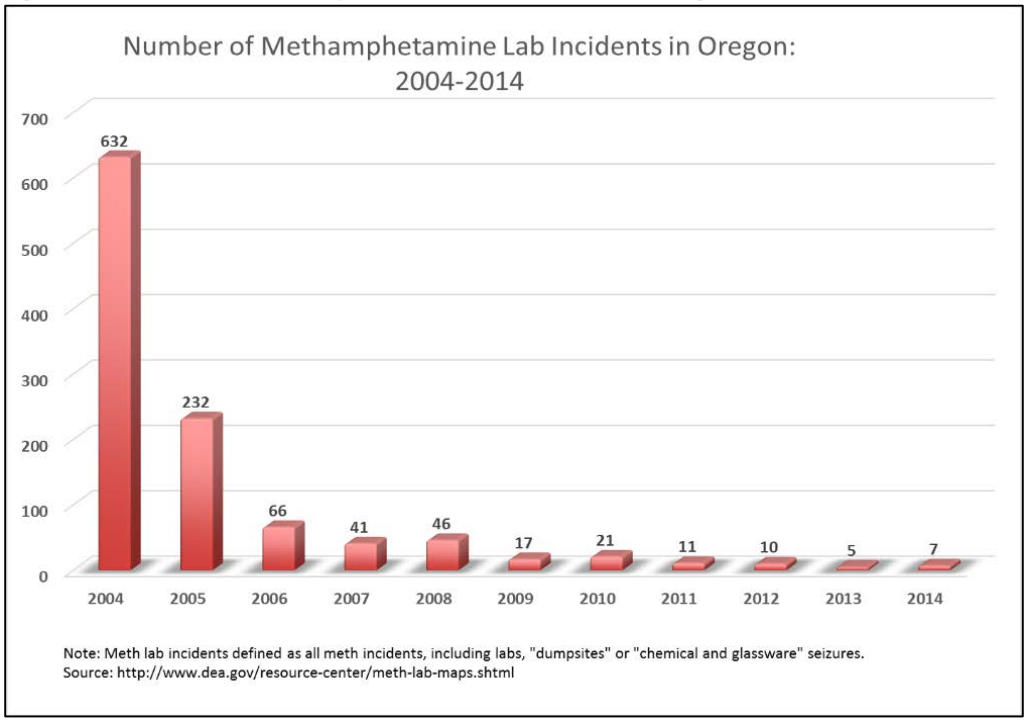
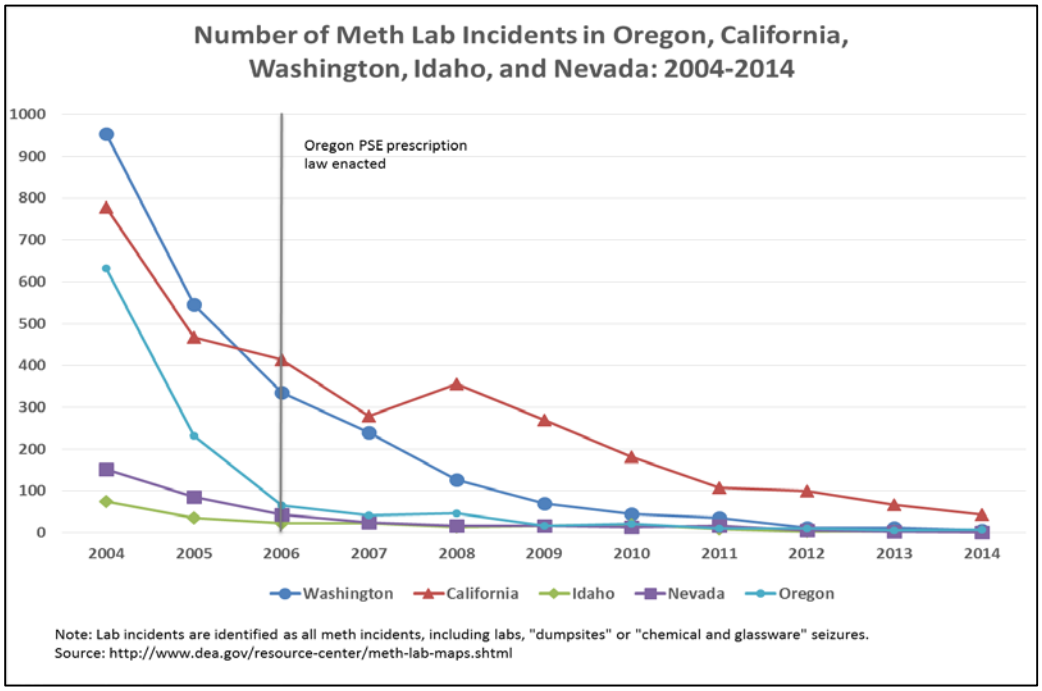


Figure 2: Number of Methamphetamine Lab Incidents in Oregon, California, Washington, Idaho & Nevada: 2004-2014



Since the prescription-only law was implemented during the period when meth lab incident rates were falling both regionally and nationwide, other factors may have contributed to the declining number of lab incidents. However, unlike the national trend, the rate of lab incidents remained low, rather than

increasing again beginning in 2008 (DEA, n/d). A January 2013 report by the U.S. Government Accountability Office (GAO) concluded that, although the number of lab incidents was on the decline before Oregon's PSE prescription law went into effect, the decline that occurred in the year after implementation was statistically significant and not due to chance, after controlling for several factors and comparing Oregon to surrounding states. However, two other widely cited studies by Cunningham et al. (2012) and Stomberg and Sharma (2012) found that the decline in lab incidents after the law's implementation is not significant and that there is little about the Oregon experience that is different from the regional trends. Some suggestions as to what may have caused the overall regional decrease in labs are: (1) reduced federal funding to clean up meth labs may have reduced state and local law enforcement's incentive to report all meth lab incidents to the DEA (GAO, 2013); (2) a technological or market change may have affected meth over that time period (Stromberg and Sharma, 2012); and, (3) national precursor regulations may have had an effect on all states (GAO, 2013).

Although it is evident that domestic production of meth in Oregon has been drastically reduced, meth is still widely available in the state. According to the most recent report by the Oregon HIDTA (2015), meth in its crystal form ("ice") is very prevalent in the area and has now been declared the most significant drug threat in the state. Nearly 90 percent of surveyed officers stated that meth was "highly available" in 2014, and 40 percent of surveyed officers noted an increased availability during the same year (Oregon HIDTA, 2015). Law enforcement identifies Mexico as the primary source of Oregon's meth, with a small amount being produced in California and the Southwest. The report also mentions that the number of meth seizures and pounds of meth seized has increased substantially since 2007, the year after the PSE prescription law was implemented. In 2010, Oregon HIDTA Task Forces seized 157 pounds of meth, but this number more than tripled to 578 pounds in 2014. Anecdotal evidence confirms the increased availability, as do other factors presented later in this report.

Mississippi and Surrounding States

Since the 2010 implementation of its PSE prescription law, Mississippi has experienced a substantial decrease in the number of lab incidents. As Figure 3 shows, during the first year of the law, lab incidents decreased 64 percent, from 912 to 321. These decreases have continued, reaching an all-time low of 2 incidents in 2014. Unlike the Oregon experience, the number of lab incidents increased sharply the year before the law was implemented. During this time period, there was a 113 percent increase in the number of lab incidents, from 439 incidents in 2008 to 938 incidents in 2009. Figure 4 shows that the same basic trends were occurring in Mississippi's surrounding states: Louisiana, Alabama, Arkansas, and Tennessee. With the exception of Tennessee, Mississippi and its neighboring states have experienced at least an 85 percent reduction in the number of lab incidents. This may point to factors other than the PSE prescription as the basis for the trend, such as those cited above. However, the study by Cunningham et al. found a significant difference in Mississippi's reductions, concluding that prescription precursor regulation can reduce lab incidents in areas where the prevalence is high.

Figure 3: Number of Methamphetamine Lab Incidents in Mississippi: 2004-2014

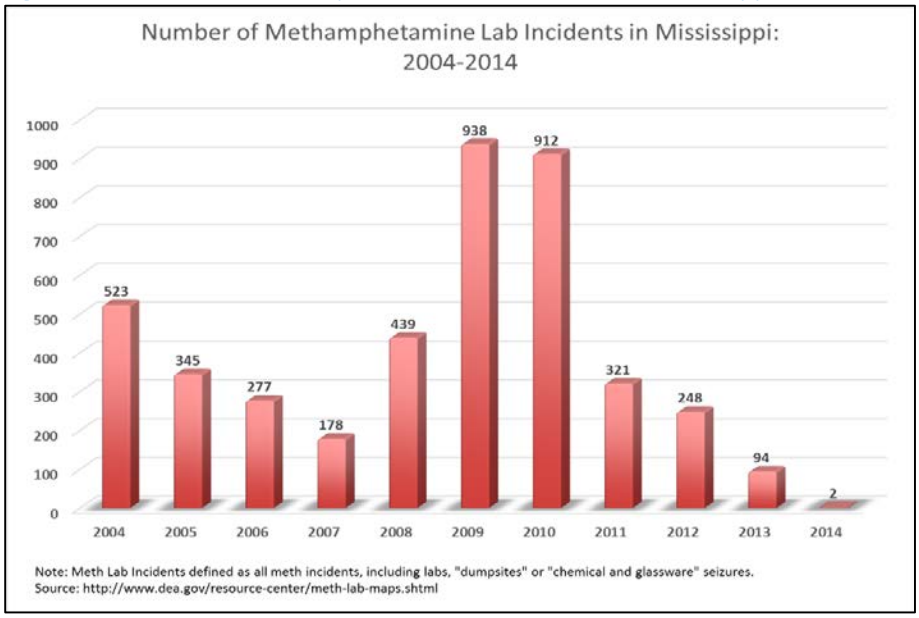
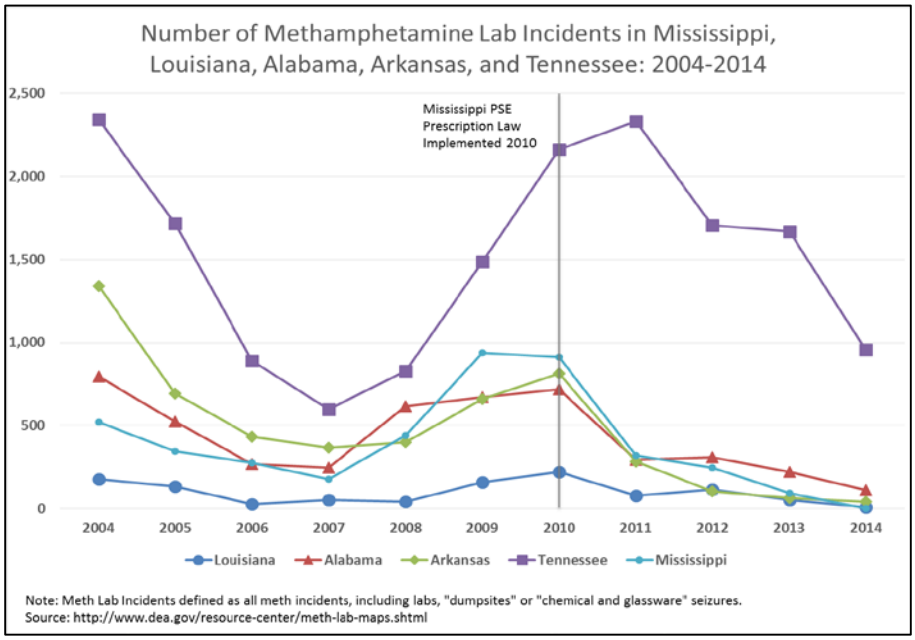


Figure 4: Number of Methamphetamine Lab Incidents in Mississippi, Louisiana, Alabama, Arkansas & Tennessee: 2004-2014



According to the 2015 Gulf Coast HIDTA Threat Assessment, the increased presence of meth is a concern of law enforcement in the area. Though not considered the primary threat, as in Oregon, law enforcement agencies still report a moderate-to-high availability of the drug. Meth seizures have increased in recent years, with 110 pounds seized in 2012 and 304 pounds seized in 2013 (Gulf Coast HIDTA, 2015). Not only is crystal meth from Mexico, California, and Texas a problem, law enforcement still encounters domestic meth produced via the “one pot” or “shake and bake” methods. However these techniques only yield a small amount of meth and are typically used only for personal

consumption. Local law enforcement also reports that meth producers in the area still engage in "smurfing" in Louisiana and Alabama to circumvent the strict precursor laws, but this is becoming more difficult as states such as Arkansas update their laws to prevent such activity (Gulf Coast HIDTA, 2015).

Methamphetamine Use and Treatment Admissions

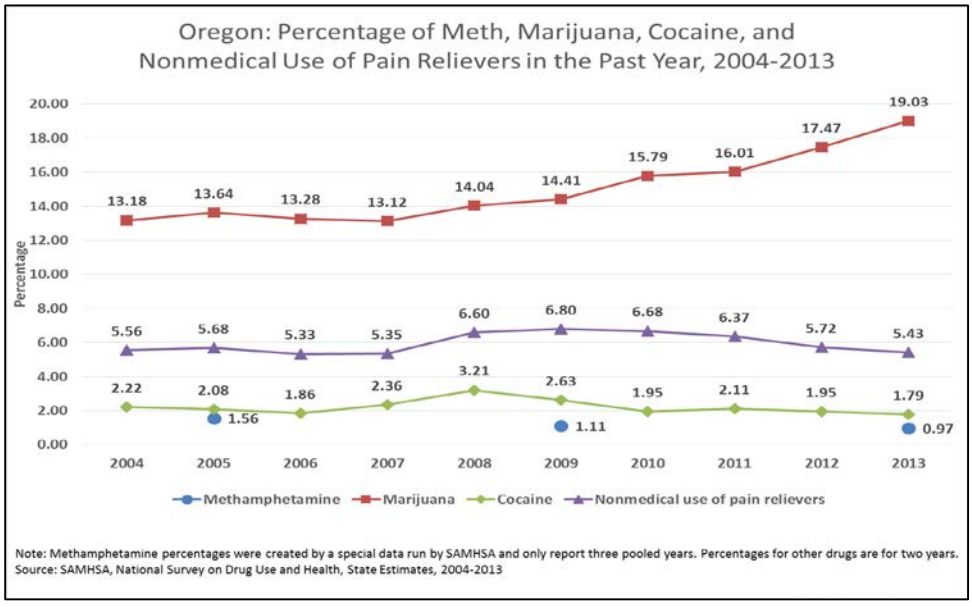
Overall, we noted the following trends for methamphetamine use and treatment admissions:

- Estimated past-year meth use has remained stable over the 2004-2013 period in Oregon, Mississippi, and their surrounding states. Meth is used less frequently than marijuana, cocaine, and nonmedical use of pain relievers.
- In both Oregon and Mississippi, the number of treatment admissions where meth was the primary drug of abuse peaked in 2005, decreased until 2009, and has increased since. The proportion of all treatment admissions that are meth-related has followed this same trend.
- Surrounding states follow these same basic trend patterns as Oregon and Mississippi.

Oregon

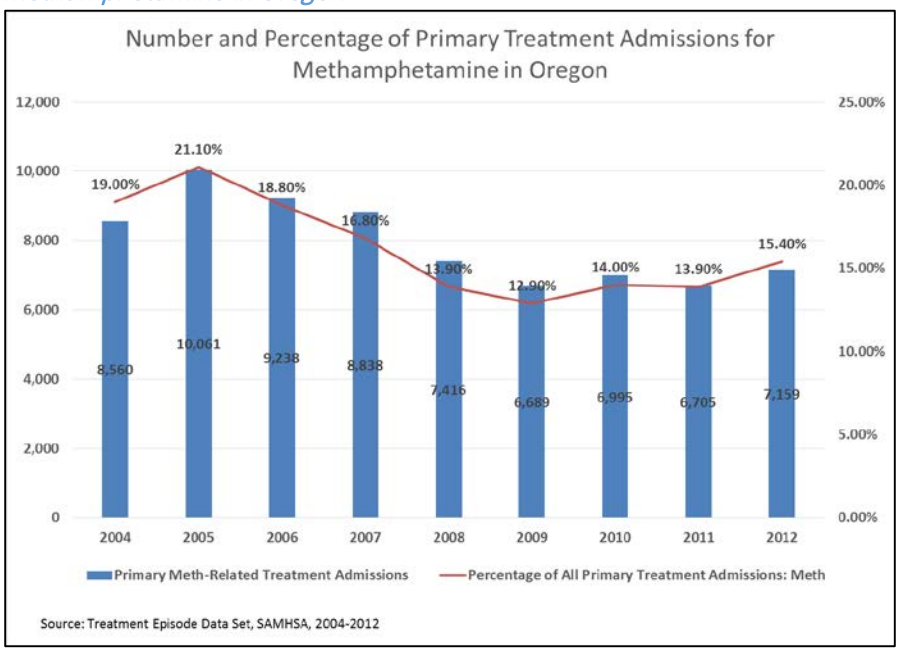
The limited publically available data suggests that meth use in Oregon decreased after the PSE law's implementation. Over the period of study, the approximate percentage of the population with past-year meth use decreased from 1.56 percent in 2005 (47,000 residents) to 1.11 percent in 2010 (35,000 residents) and 0.97 percent in 2013 (32,000 residents). Figure 5 shows how these numbers compare to past-year use of marijuana, cocaine, and nonmedical use of pain relievers. It appears that rates of meth use is not only lower than use rates for other drugs, it is also following the same basic declining trend. The exception to these trends is marijuana, where increased use may be attributable to the drug becoming decriminalized, medicalized, and eventually legalized, over the ten-year period.

Figure 5: Oregon: Percentage of Meth, Marijuana, Cocaine, and Nonmedical Use of Pain Relievers in the Past Year, 2004-2013



Similar to the use statistics, the number and proportion of primary meth-related treatment admissions declined after the law's implementation, decreasing from a high of 10,061 admissions in 2005 (21.1% of all admissions) to 6,689 admissions by 2009 (12.9% of all admissions). However, since 2009, the number of primary meth admissions has been trending upward, as has the percentage of all admissions for meth. By 2012, the most recent year for which data are publically available, there were 7,159 primary treatment admissions for meth (15.4% of all admissions) (SAMHSA, 2013; SAMHSA, 2014). Although the increase is not as high as the 2005 levels, it is evident that meth is still a drug used among Oregonians, and these trends should be monitored in the future.

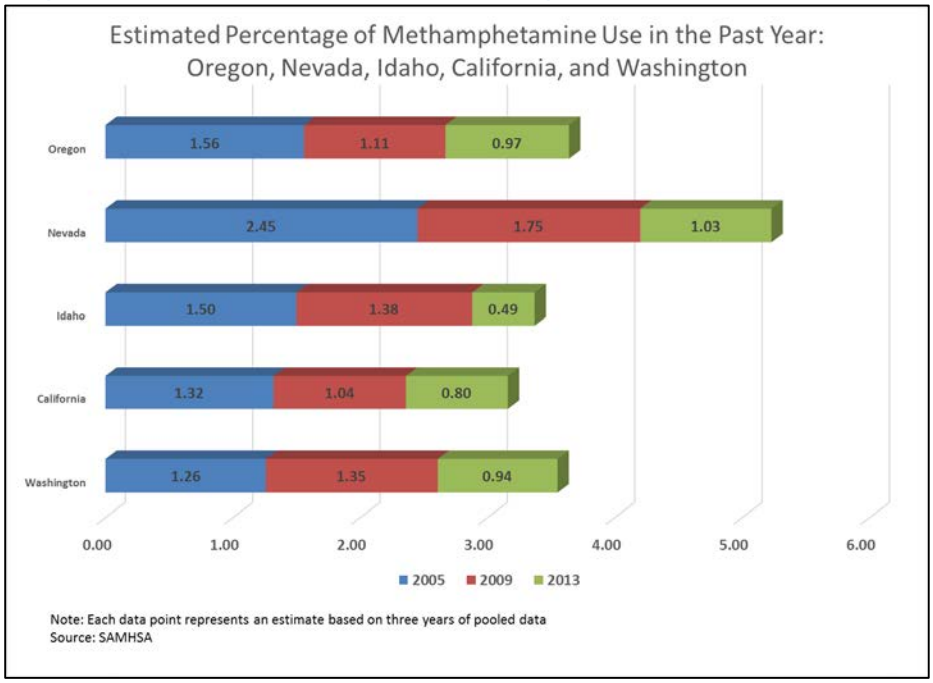
Figure 6: Number and Percentage of Primary Treatment Admissions for Methamphetamine in Oregon



Washington, California, Idaho, and Nevada

Figure 7 demonstrates that Oregon's neighboring states (Washington, California, Idaho, and Nevada) experienced similar declines in past-year meth use. The lone exception is Washington, which saw a slight uptick in use between 2005 and 2009, from an estimated 1.26 percent of the population to 1.35 percent of the population. However, by 2013, this number had decreased to 0.94 percent, which is slightly lower than Oregon's 0.97 percent (SAMHSA, 2013; SAMHSA; 2014). Nevada has the highest past-year meth use rates, but meth is still not as widely used as other illicit substances in the state. The fact that use rates in these four states have followed the same trends as Oregon and still remain low show that the law in Oregon did not affect regional usage.

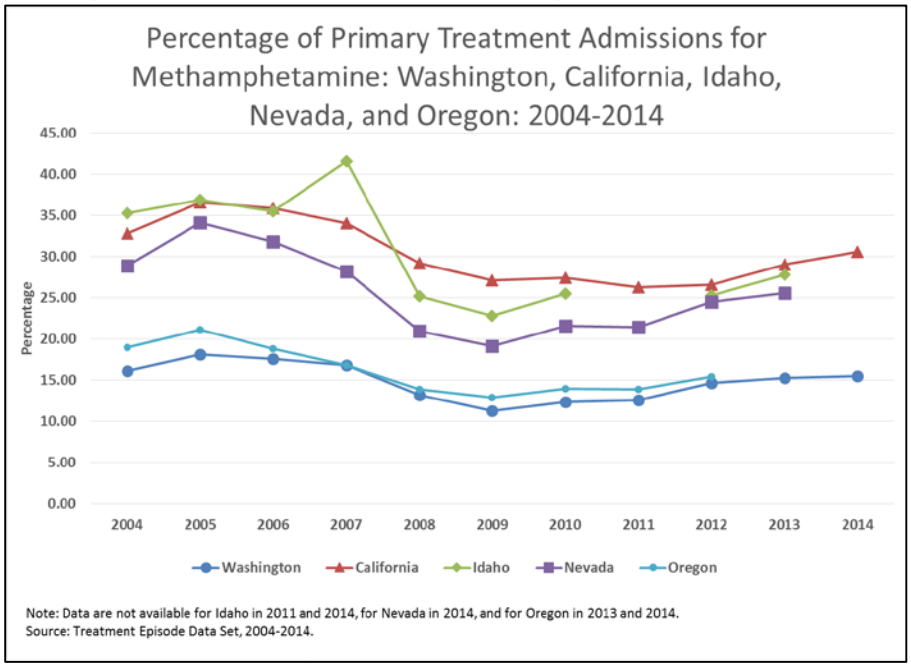
Figure 7: Estimated Percentage of Methamphetamine Use in the Past Year: Oregon, Nevada, Idaho, California, and Washington



The number of individuals admitted to substance abuse treatment services with a primary diagnosis of meth use did not decrease as consistently as use rates across Oregon and its neighboring states. In California, the number of primary meth-related treatment admissions consistently decreased from 67,068 in 2005 to 46,500 in 2014. However, in Washington, primary meth-related treatment admissions decreased from 6,464 in 2005 to 4,521 in 2009 before increasing to 5,457 in 2014. Likewise, in Nevada, primary meth-related treatment admissions decreased from 3,419 in 2005 to 1,891 in 2009 before increasing to 2,230 in 2013. Idaho has missing data points for this measure; however, available data indicate that meth treatment admissions are decreasing, from 2,347 in 2005 to 1,495 in 2009 and 1,245 in 2013 (SAMHSA, 2013; SAMHSA; 2014).

Figure 8 shows the proportion of primary meth-related treatment admissions for Oregon and its four surrounding states from 2004 through 2014. Washington and Oregon have similar proportions of primary meth-related treatment admissions and share very similar trend lines, while California, Idaho, and Nevada have higher proportions but the same basic trends. In general, states had the highest proportion of meth-related treatment admissions in 2005, steadily decreased until 2009, and have been steadily increasing since. In fact, since 2012, at least one quarter (25%) of all treatment admissions in California, Idaho, and Nevada have been for meth. This proportion is much higher than the 15 percent of all treatment admissions observed in Oregon and Washington.

Figure 8: Percentage of Primary Treatment Admissions for Methamphetamine: Washington, California, Idaho, Nevada, and Oregon: 2004-2014



Mississippi

In Mississippi, data show that past-year meth use decreased prior to the implementation of the 2010 PSE law. In fact, past-year meth use decreased by 60% between 2005 and 2009, from an estimated 23,000 users (0.97% of the population) to 9,000 estimated users (0.39% of the population). Use then increased slightly, to 11,000 (0.45% of the population) in 2013. As seen in Figure 9, when compared with past-year use of marijuana, cocaine, and nonmedical use of pain relievers, estimated use is much less frequent and follows the same basic trend as cocaine and marijuana.

Similar trends can be seen with primary meth-related treatment admissions. The highest number of admissions (636 admissions, 7.2% of all admissions) occurred in 2005, decreased by 2009 (425 admissions 5.3% of all admissions), and increased by 2013 (519 admissions, 9.2% of all admissions) (SAMHSA, 2013; SAMHSA, 2014). Interestingly, while the number of total admissions where meth is reported as the primary drug of choice was lower in 2013 than in 2005 (519 vs. 636) the proportion of all treatment admissions that are meth-related is slightly higher (7.2% vs. 9.2%). Meaning that there are fewer individuals in treatment; however, a greater proportion of those in treatment report meth as the primary drug of abuse.

Figure 9: Mississippi: Percentage of Meth, Marijuana, Cocaine, and Nonmedical use of pain relievers in Past Year, 2004-2013

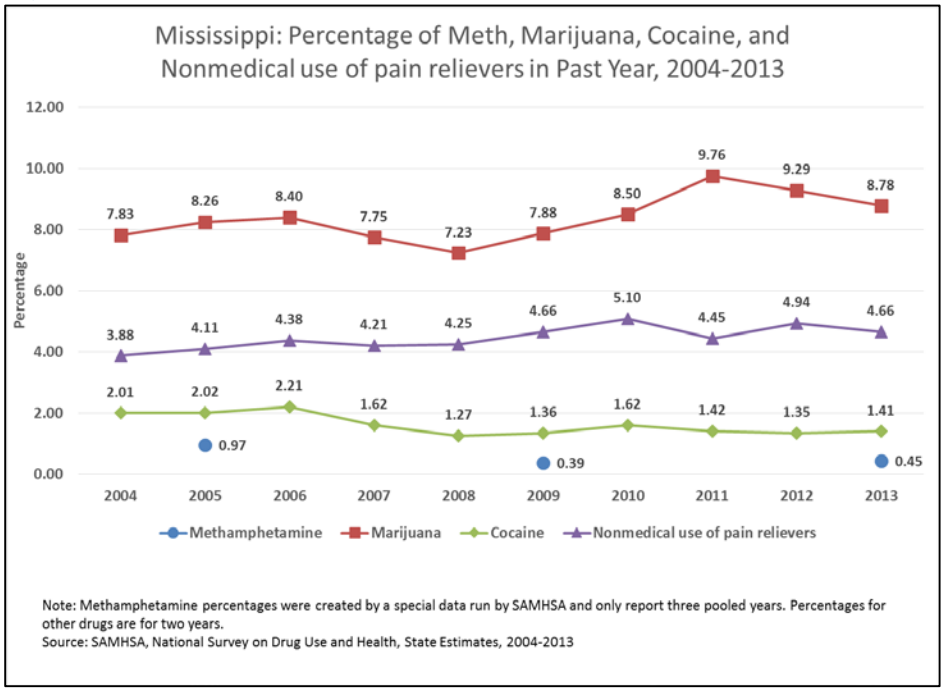
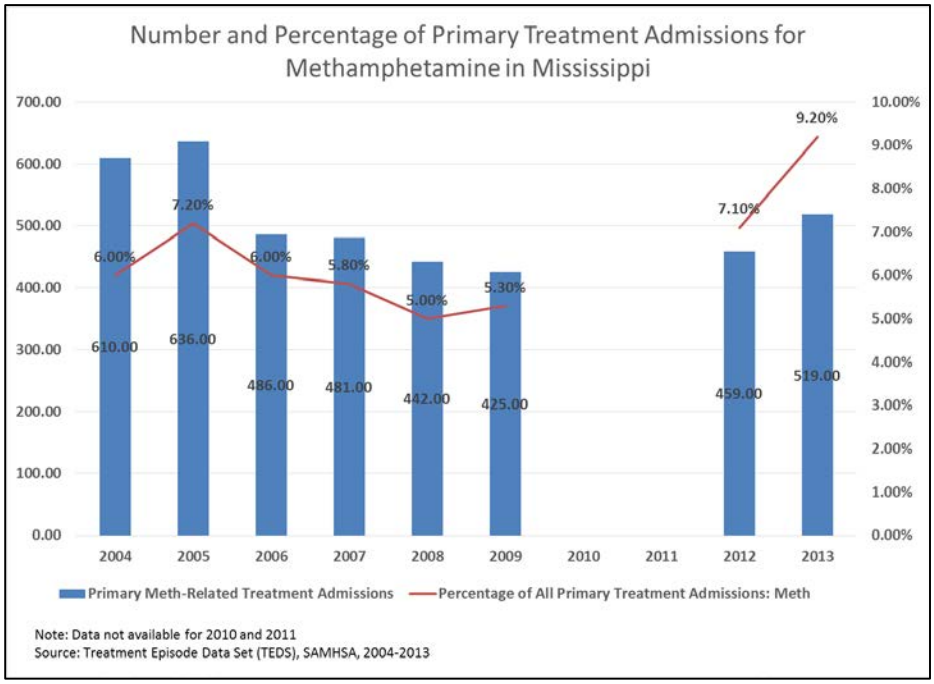


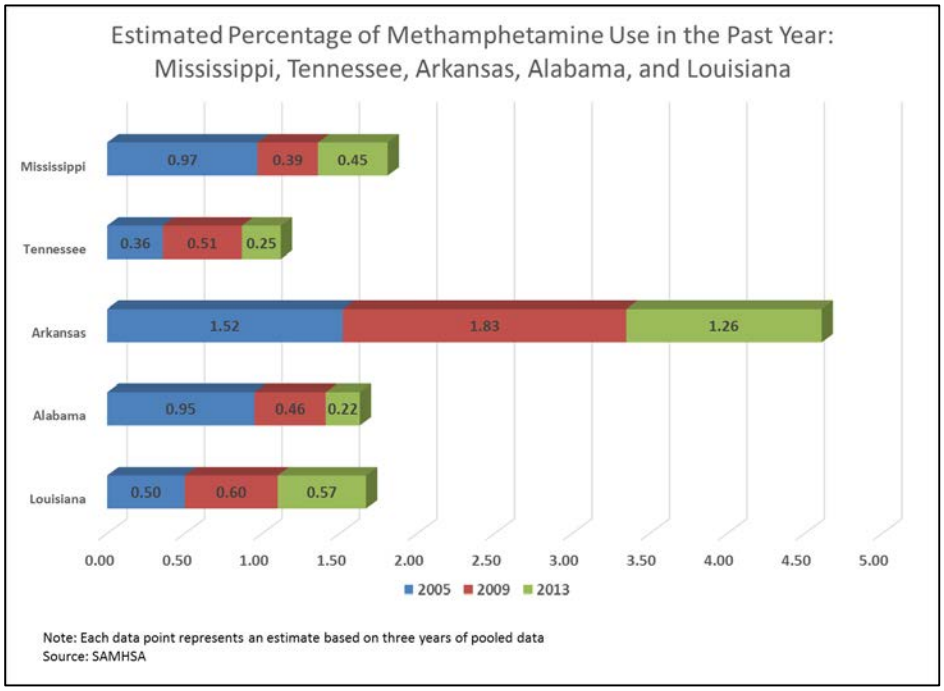
Figure 10: Number and Percentage of Primary Treatment Admissions for Methamphetamine in Mississippi



Louisiana, Alabama, Arkansas, and Tennessee

The approximate number of individuals with past-year meth use varies across Mississippi's surrounding states, suggesting that there are not any overarching regional factors responsible for changes. Further, no states in the region experienced an increase in the estimated number of past-year users since the PSE law was implemented in Mississippi. In Alabama, past-year meth use steadily decreased almost 75 percent, from 35,000 in 2005 (0.95% of the total population) to 9,000 in 2013 (0.22% of the total population). In Arkansas, where the past-year meth use rates are the highest of the five states, use increased from 34,000 in 2005 (1.52% of the total population) to 43,000 in 2009 (1.83% of the total population) before decreasing to 30,000 in 2013 (1.26% of the total population). Likewise, in Tennessee, past-year meth use increased from 17,000 in 2005 (0.36% of the total population) to 26,000 in 2009 (0.51% of the total population) before decreasing to 13,000 in 2013 (0.25% of the total population). Finally, in Louisiana, past-year meth use increased 17 percent, from 18,000 in 2005 (0.5% of the total population) to 21,000 in 2009 (0.6% of the population), and stayed at that level in 2013 (SAMHSA, 2013; SAMHSA; 2014).

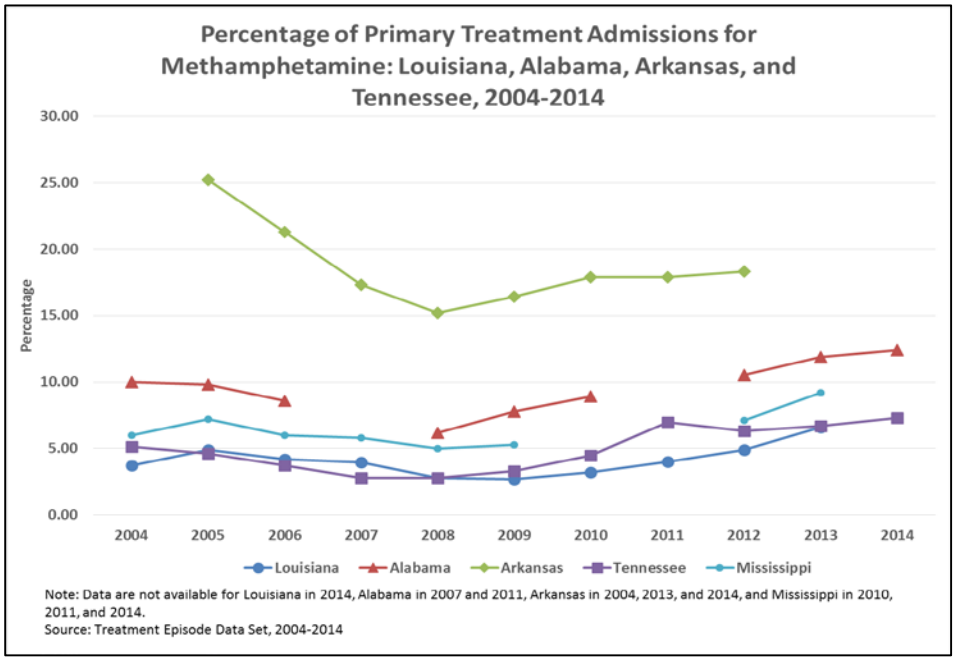
Figure 11: Estimated Percentage of Methamphetamine Use in the Past Year: Mississippi, Tennessee, Arkansas, Alabama, and Louisiana



The number of individuals who were admitted to substance abuse treatment services with a primary diagnosis of meth use also varied across Mississippi's surrounding states. In Alabama, primary meth-related treatment admissions steadily decreased by 37 percent, from 1,940 in 2005 to 1,220 in 2013. However, in Arkansas, primary meth-related treatment admissions increased from 3,464 in 2005 to a high of 4,326 in 2008, before falling to 2,297 in 2012. In Louisiana, primary meth-related treatment admissions decreased from 1,225 in 2005 to 718 in 2008 before increasing to 862 in 2013. Likewise, in Tennessee, primary meth-related treatment admissions decreased from 541 in 2005 to 277 in 2008, before increasing to 1,069 in 2014.

Figure 12 shows the proportion of primary meth-related treatment admissions for Mississippi and its four surrounding states from 2004 through 2014. Mississippi and Louisiana have similar proportions of primary meth-related treatment admissions and share parallel trend lines, while Arkansas has higher proportions but the same basic trends. In general, states had the highest proportion of meth-related treatment admissions in 2005, steadily decreased until 2008, and have been steadily increasing since. It is important to note that all states except Tennessee have at least one year of missing data, so it is possible that other trend patterns exist but cannot be observed at this time.

Figure 12: Percentage of Primary Treatment Admissions for Methamphetamine: Louisiana, Alabama, Arkansas, and Tennessee, 2004-2014



Crime

Crime is another important measure that can be used to assess the extent of an area's drug problem. The complex relationship between drugs and crime is well-documented in the literature and through official statistics, such as the Arrestee Drug Abuse Monitoring System and the Bureau of Justice Statistics' Surveys of Inmates in State and Federal Correctional Facilities. There have also been studies that specifically review the relationship between meth and crime, finding associations between regular meth use and drug abuse violations (i.e., possession and distribution); property crimes (i.e., burglary, larceny, and motor vehicle theft); and, to a lesser extent, violent crimes (i.e., homicide, robbery, aggravated assault) (Dobkin and Nicosia, 2009; Lynch et. al, 2003; Gizzi and Gerkin, 2010). While the link between arrests for drug abuse violations and meth use is straightforward, it is commonly hypothesized that areas with higher rates of meth use will have higher rates of property crime, because users commit property crimes to obtain money for meth (National Association of Counties, 2006; Gizzi and Gerkin, 2010). It is also believed, albeit not as strongly, that meth users may commit violent crimes that are systemic (i.e., part of the drug trade) or pharmacological (i.e., while under the influence of the meth) (Gizzi and Gerkin, 2010). For these reasons, we will use reported crimes and arrests rates as proxy

measures to assess trends since the implementation of PSE prescription laws in Oregon and Mississippi. It is important to note, however, that several of the states involved in this study have recently introduced Justice Reinvestment Initiatives (JRI) related programs in their jurisdictions, which may affect arrest rates. JRI is discussed more in detail later in this report. We noted the following trends concerning meth-related criminal activity:

- In Oregon, arrests for meth possession, distribution, and manufacturing are much higher than arrests for the same crimes involving cocaine, heroin, and marijuana. In fact, with the exception of 2009 and 2011, there were more arrests for meth crimes than for cocaine, heroin, and marijuana *combined.*
- While Oregon's cocaine and marijuana-related arrests have decreased since 2011, the number of meth arrests have increased by 56 percent, from 8,507 in 2011 to 13,314 in 2014.
- Since 2006, Oregon's surrounding states have seen a decrease in arrests for drug abuse violations and for the number of reported violent and property crimes. However, there have been very slight increases in the number of property crimes since 2010.
- Since 2009, there has been a 30 percent decrease in the number of arrests for meth-related offenses in Mississippi, from 688 in 2009 to 485 in 2014. Further, there has been a 40 percent reduction in the number of arrests for all drug abuse violations.
- Mississippi and its surrounding states follow the same basic trends for reported violent and property crimes and have experienced decreases since 2010. Further, Mississippi has rates that are far lower than its neighbors and has maintained those rates throughout the study period (2004-2014).

Oregon

The Oregon Criminal Justice Commission (OCJC) manages a clearinghouse of criminal justice data, including detailed data on arrests for drug crimes. However, these data are only available since 2007, so data from before the implementation of the PSE prescription law were not available for analysis. Since 2007, some noteworthy trends have occurred. First, as Figure 13 depicts, the number of arrests for meth possession, distribution, and manufacturing is much higher than for the same crimes involving cocaine, heroin, and marijuana. In fact, with the exception of 2009 and 2011, Oregon had more arrests for meth crimes than for cocaine, heroin, and marijuana *combined.* Second, while cocaine- and marijuana-related arrests have declined since 2011, the number of meth arrests has increased by 56 percent—from 8,507 in 2011 to 13,314 in 2014. If the hypotheses concerning property and violent crimes holds true, we would expect to see an increase in these crimes as well. Third, as Figure 14 illustrates, the majority of Oregon's meth-related arrests are for possession, as opposed to manufacture or distribution (referred to as delivery in the figure). The arrest numbers for manufacture and distribution remained fairly stable from 2007 to 2014, while the possession numbers fluctuated greatly. This may be an indicator of increased availability and, in turn, increased use.

Figure 13: Arrests for Drug Crimes in Oregon: 2007-2014

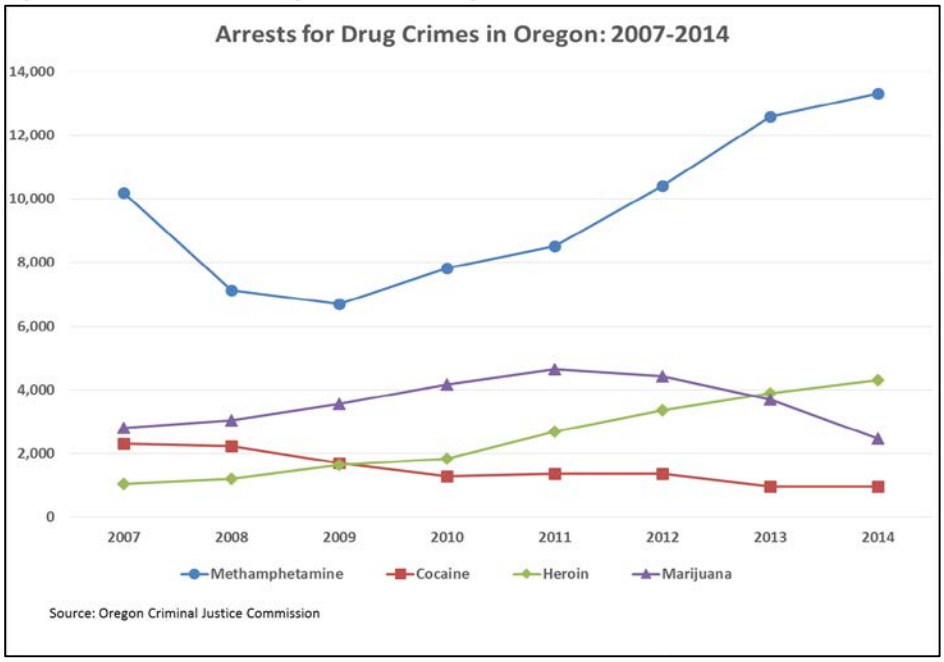
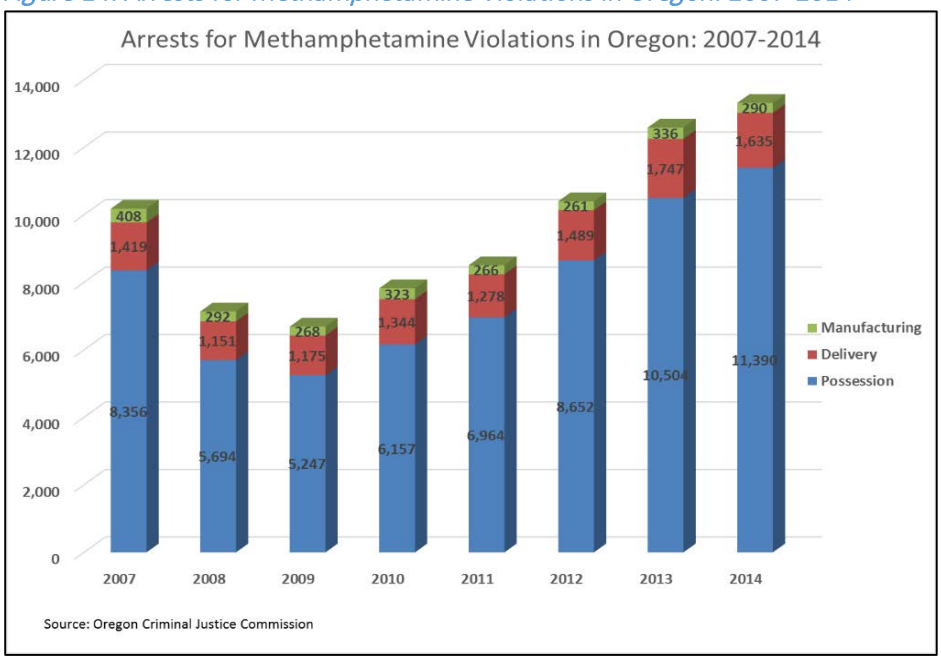


Figure 14: Arrests for Methamphetamine Violations in Oregon: 2007-2014

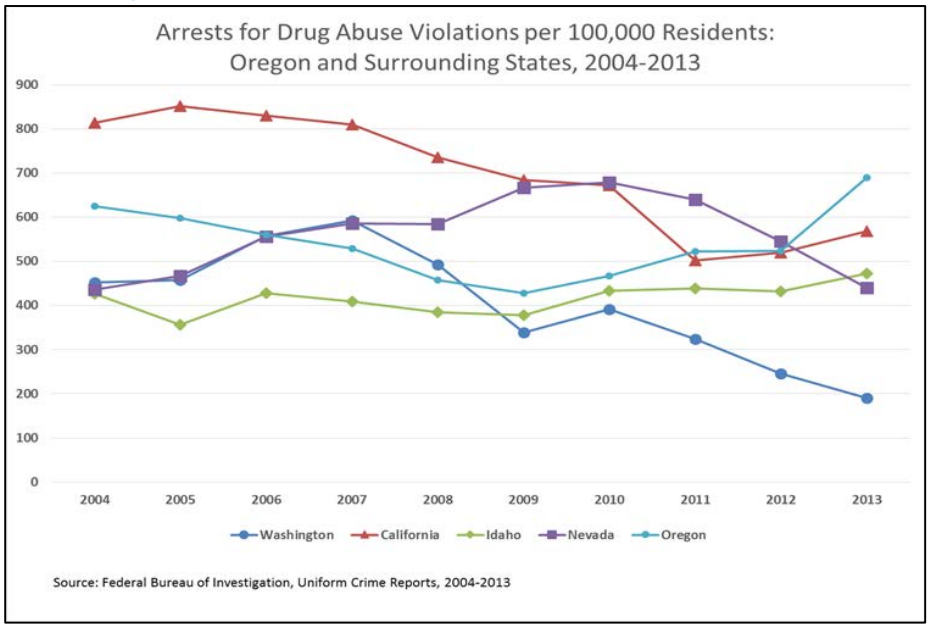


Oregon Compared with Surrounding States

Figure 15 shows arrests for drug abuse violations in Oregon, Washington, California, Idaho, and Nevada from 2004 to 2013. The data come from the Federal Bureau of Investigation's Uniform Crime Reports (UCR) and have been converted to rates per 100,000 residents for comparison purposes. Since 2006, when Oregon implemented its PSE prescription law, the majority of states have seen an overall decrease

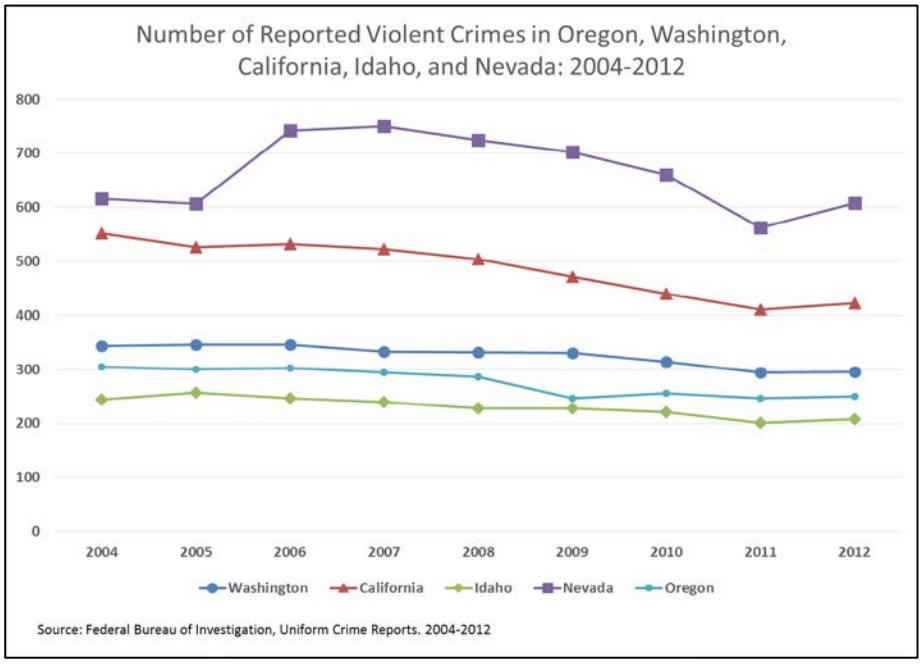
in these arrests. For instance, Washington has experienced a 65 percent decrease, from 557 arrests per 100,000 in 2006 to 191 arrests per 100,000 in 2013. Likewise, California has experienced a 32 percent decrease, from 831 per 100,000 in 2006 to 568 per 100,000 in 2013. Oregon, however, is a notable exception to this trend. Unlike its neighbors, Oregon experienced a 23 percent increase in the number of arrests per 100,000. In 2006, Oregon had 560 arrests for drug abuse violations per 100,000 residents and experienced 690 such arrests per 100,000 residents in 2013. Further, arrests for these crimes were decreasing from 2006 to 2009 and have been consistently increasing ever since. Referring back to Figure 13 above, the same trend can be observed in the meth arrest data provided by the OCJC, leading to a safe conclusion that the arrest trends in the UCR data are driven by meth.

Figure 15: Arrests for Drug Abuse Violations per 100,000 Residents: Oregon and Surrounding States, 2004-2013



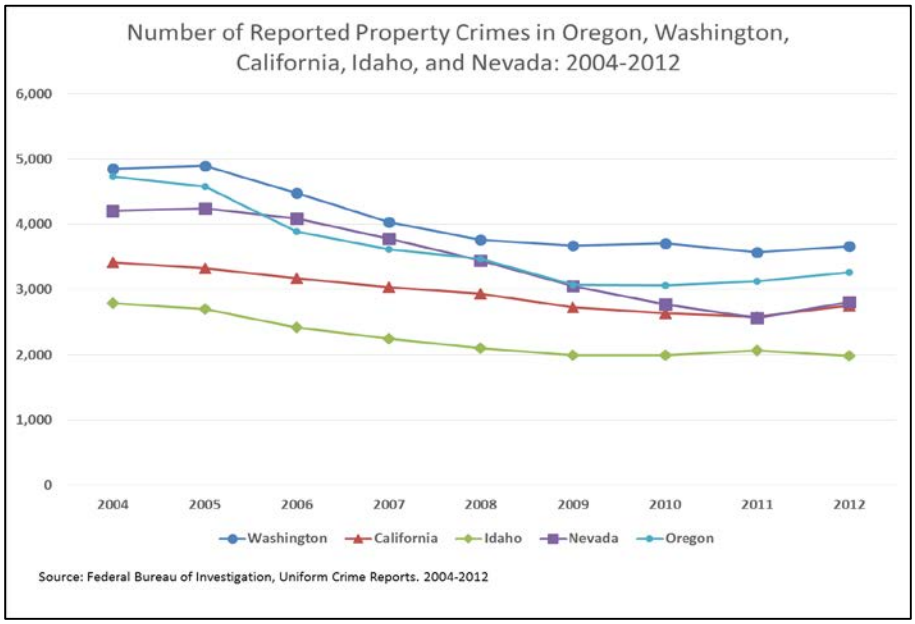
Figures 16 and 17 provide the number of reported violent and property crimes per 100,000 residents for Oregon and its surrounding states. The number of violent crimes reported since 2006 declined for every state in the region, which is consistent with the national trend. Further, fewer incidents of violent crime were reported in Oregon than in any other states in the region, except Idaho. Because Oregon's violent crime rates remain low and Oregon's downward trend comports with regional trends, we conclude that there have been no noticeable differences in violent and property crime rates since the implementation of Oregon's PSE prescription law.

Figure 16: Number of Reported Violent Crimes in Oregon, Washington, California, Idaho, and Nevada: 2004-2012



Oregon and its neighboring states have experienced reductions in the number of reported property crimes since 2006, ranging from 31 percent in Nevada to 13 percent in California. However, all states except Idaho have seen slight increases since 2010. Oregon saw a 4.4 percent increase in property crimes per 100,000, from 3,059 in 2010 to 3,266 in 2012, and regional trends show similar results. Property crime rates should be monitored, given the relationship between property crime and meth.

Figure 17: Number of Reported Property Crimes in Oregon, Washington, California, Idaho, and Nevada: 2004-2012



Mississippi

Figure 18 shows the number of arrests for meth-related offenses. These data should be interpreted with caution as they include only arrests reported to the Mississippi Bureau of Narcotics, which typically collects arrest data related to lab incidents. As a result, these data only represent a fraction of the meth-related arrests made in Mississippi and should not be compared with other statistics. However, because these data have been consistently collected, they can be used to monitor yearly trends. Since 2009, Mississippi has seen a 30 percent decrease in arrests for meth-related offenses, from 688 in 2009 to 485 in 2014. This decrease is consistent with the substantial reduction in lab incidents since the implementation of the PSE prescription law in 2010. However, before comparing Mississippi's arrest rates for drug abuse violations to its neighboring states, it is helpful to view the number of arrests for all drug abuse violations from the UCR, since the statistics presented in Figure 18 are only a small piece of the picture.

Figure 18: Number of Arrests for Methamphetamine-Related Offenses in Mississippi: 2009-2014

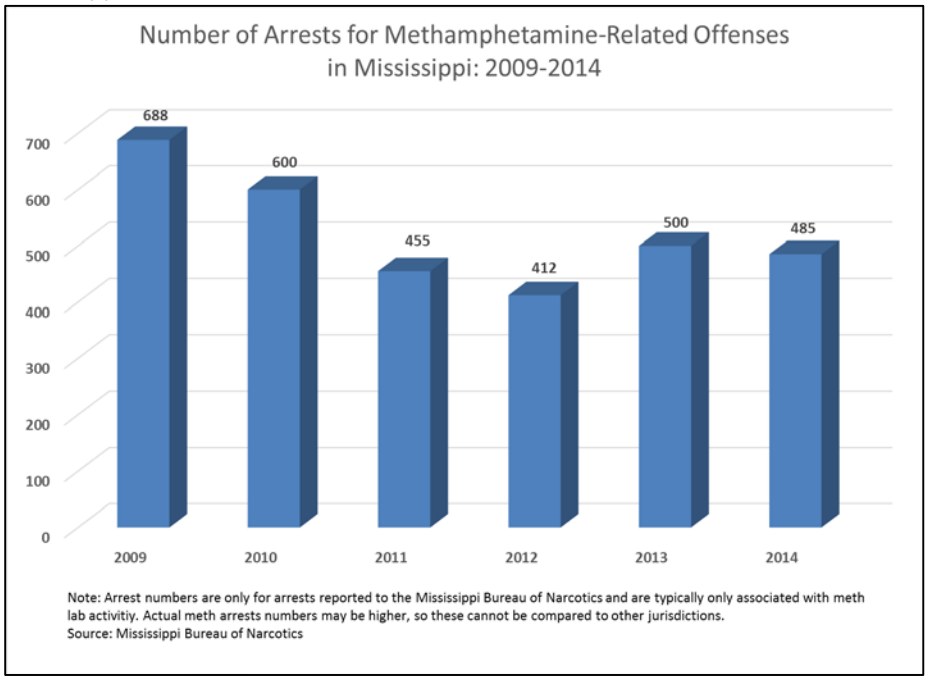
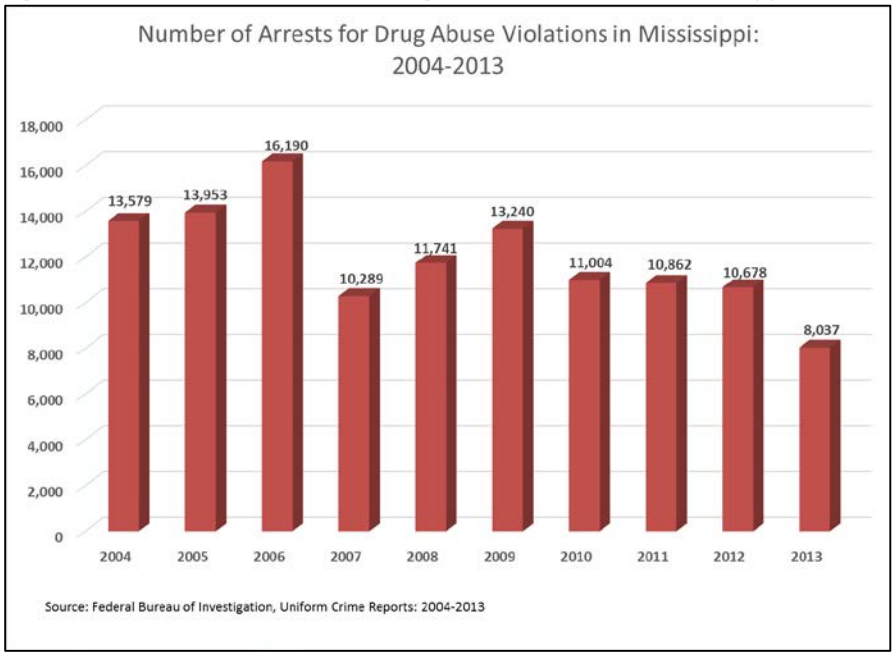


Figure 19 shows Mississippi's arrests for drug abuse violations according to the UCR. The UCR data show the same trend as the meth arrest data presented in Figure 18: The number of arrests has declined since implementation of PSE the law in 2010. In fact, Mississippi has experienced a 40 percent reduction in the number of arrests for all drug abuse violations. However, it is not possible to tell whether any of these arrest trends are driven by meth because the publically available UCR data do not differentiate drug abuse violations by drug type and the Mississippi Bureau of Narcotics data represent only a fraction of the arrests for meth offenses. It is important to note that the number of drug arrests is decreasing overall, but the relationship between the trend and meth activity cannot be determined based on the available data.

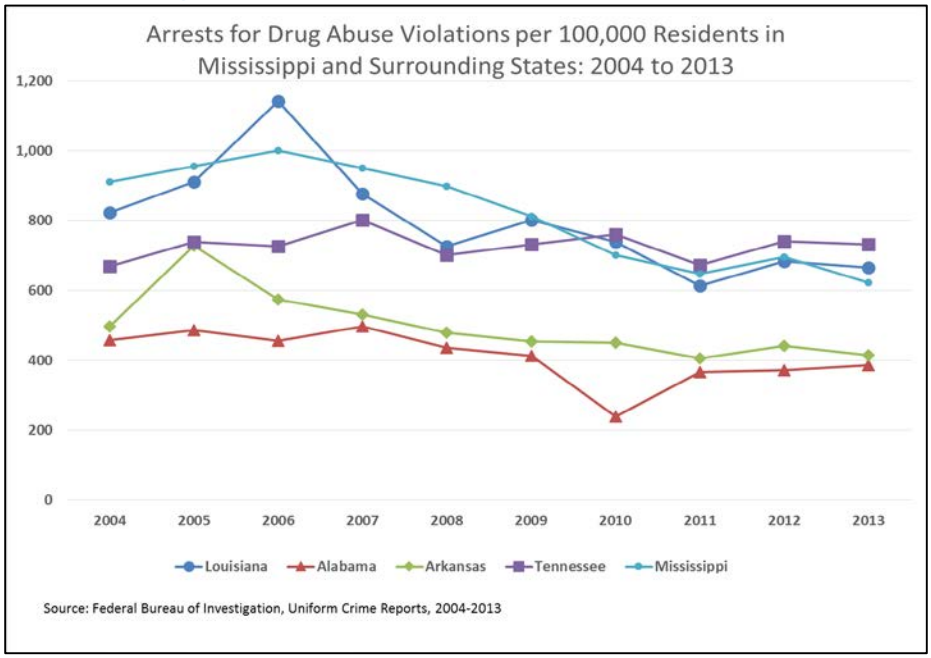
Figure 19: Number of Arrests for Drug Abuse Violations in Mississippi: 2004-2013



Mississippi Compared with Surrounding States

Mississippi is experiencing the same basic trends in arrests for drug abuse violations as its surrounding states. Since Mississippi implemented its PSE law in 2010, all neighboring states except Alabama have seen declining arrest rates for drug crimes. Mississippi saw the largest decrease of the five states (11%), from 701 arrests per 100,000 residents in 2010 to 623 arrests per 100,000 residents in 2013. Over the same time period, Louisiana saw a 9.9 percent decrease, Arkansas saw a 7.9 percent decrease, and Tennessee saw a 3.8 percent decrease. Alabama technically experienced a 60 percent increase in arrests for drug abuse violations, but this may be due to a data anomaly, as the numbers presented for 2010 were uncharacteristically low. Further, Alabama has the lowest arrests rates for these crimes over the 2004-2013 time period, so this increase is not cause for alarm and does not warrant investigation. Figure 20 presents these trends.

Figure 20: Arrests for Drug Abuse Violations per 100,000 Residents in Mississippi and Surrounding States: 2004 to 2013



Figures 21 and 22 present violent and property crimes rates per 100,000 residents for Mississippi and surrounding states. All states follow the same basic trends for both crime types and have experienced decreases since 2010. Mississippi has rates far lower than its neighbors, and has maintained those rates throughout the study period (2004-2014). These data indicate that meth activity has not influenced rates of violent or property crimes and that any fluctuations may be due to regional phenomenon.

Figure 21: Number of Reported Violent Crimes per 100,000 Residents in Mississippi and Surrounding States: 2004-2012

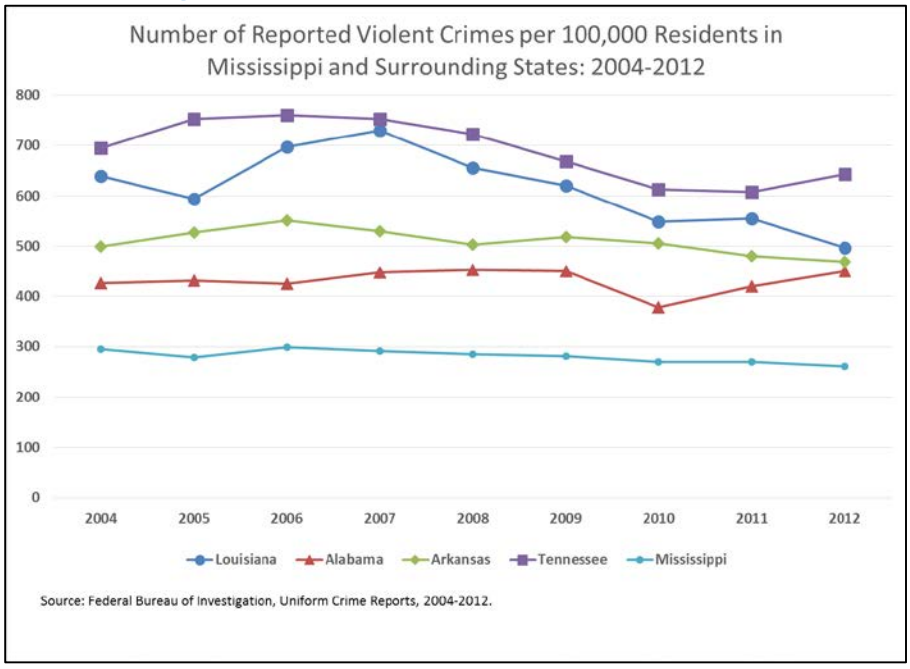
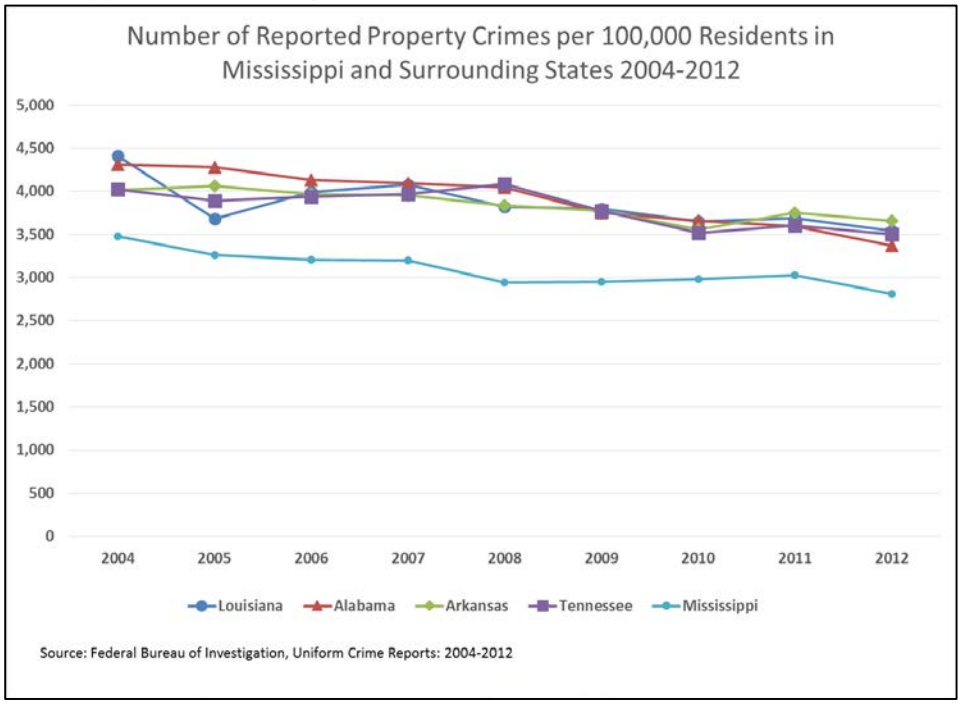


Figure 22: Number of Reported Property Crimes per 100,000 Residents in Mississippi and Surrounding States 2004-2012



Methamphetamine-Related Deaths and Fatal Overdoses

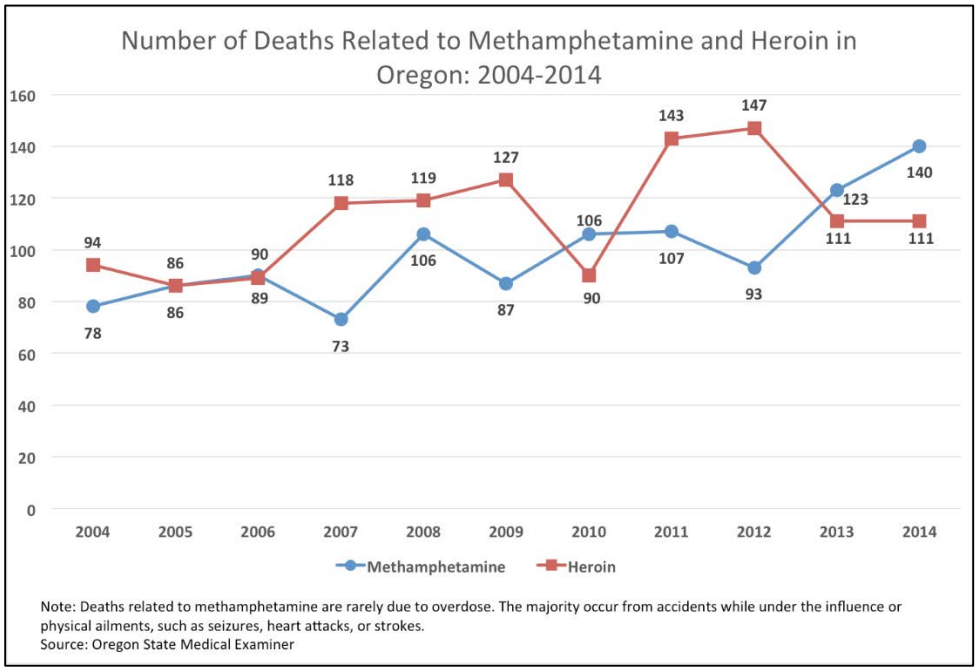
For meth-related deaths and fatal overdoses, we found:

- In Oregon, the number of meth-related deaths has been increasing since 2007, with numbers reaching their highest levels in 2014. Meth has now surpassed heroin as the leading death-causing drug in the state.
- Estimates for meth-related deaths in Oregon's neighboring states show similar trends.
- Fatal meth-related overdoses in Mississippi remained consistently low throughout the examined time period, fluctuating from 12 to 18 fatal overdoses per year.
- Mississippi's surrounding states do not show any discernable regional trends with regards to meth-related deaths. However, Arkansas and Tennessee have much higher rates than other states in the region.

Oregon and Surrounding States

Data from the Oregon State Medical Examiner suggests that the Oregon's PRE law may have had an initial impact on meth-related deaths in the state. Figure 23 shows that, from 2004 to 2006, meth-related fatal overdoses gradually increased from 78 to 89 before dropping to 73 in 2007, the first full year after implementation. However, meth-related deaths increased to 106 in 2008. Through 2012, the number of meth-related deaths fluctuated, although it never again reached the low of 2007. By 2013 and 2014, meth-related deaths increased substantially, surpassing the level of heroin-related deaths. The number of meth-related deaths in 2013 and 2014 (123 and 140 respectively) are the highest levels observed in ten years.

Figure 23: Number of Deaths Related to Methamphetamine and Heroin in Oregon: 2004-2014

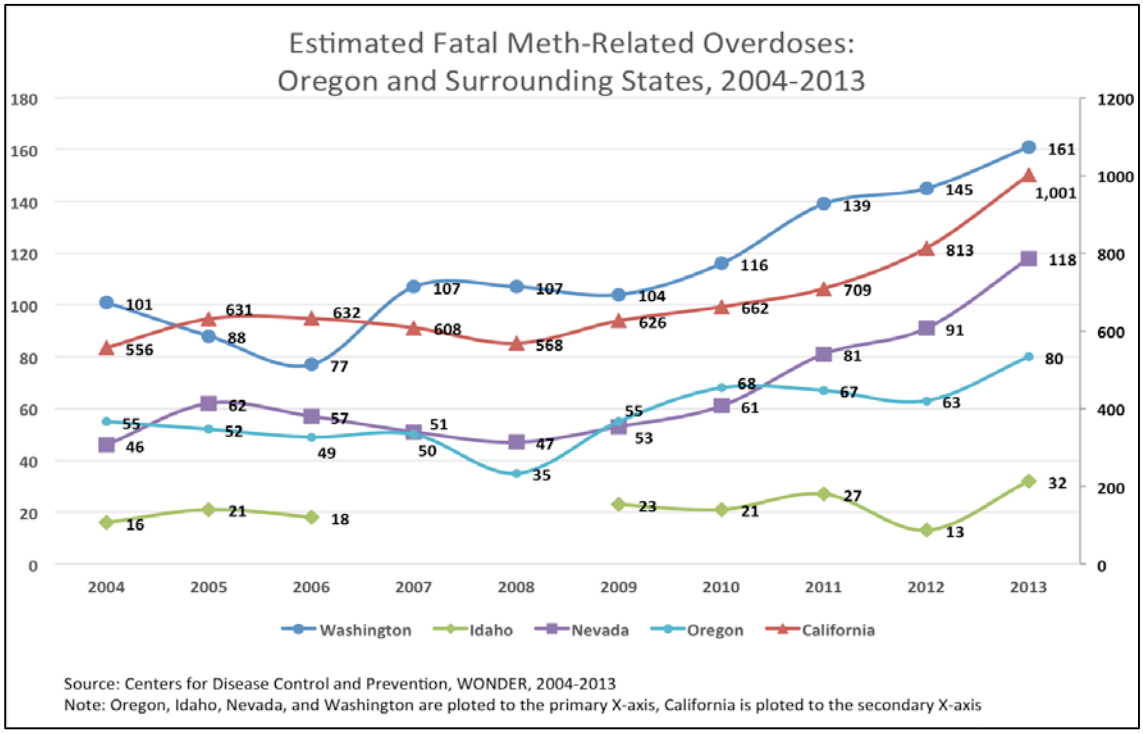


The estimated number of fatal meth-related overdoses from the CDC's WONDER system is lower than the meth-related deaths reported by the Oregon State Medical Examiner for all studied years. This relationship is expected because meth deaths are typically not due to overdose. In fact, most meth-related deaths occur from accidents while under the influence or from physical ailments, such as seizures, heart attacks, or strokes. The CDC estimates show that the number of fatal meth-related overdoses in Oregon remained roughly constant from 2004 to 2007, only slightly decreasing from 55 to 50, before decreasing to 35 in 2008. Like the Medical Examiner's data, the CDC estimate shows that the number of fatal overdoses increased again, reaching 55 in 2009. The number of fatal overdoses continued to rise to 68 in 2010, slightly decreased to 63 in 2012, and then increased to 80 in 2013. These increases may be a result of increased international production replacing domestic production.

The estimates derived from the CDC's WONDER system show similar trends in all four of Oregon's surrounding states, although the total number of fatal overdoses is significantly higher in California, as expected due to its larger population. Figure 24 shows that, in Nevada, fatal meth-related overdoses increased from 46 overdoses in 2004 to 62 overdoses in 2005, before slowly decreasing to 47 overdoses in 2008. The number of fatal overdoses then steadily increased each year through 2013, eventually reaching 118. Similarly, in California, the number of fatal overdoses increased from 556 in 2004 to 631 in 2005, slowly decreased to 568 in 2008, and then steadily increased each year to 1,001 in 2013. In Washington, the number of fatal overdoses declined earlier, from 101 overdoses in 2004 to 88 in 2005 and 77 in 2006. However, it then increased to 107 in 2007. Washington's fatal overdoses stayed roughly level through 2009, before increasing to 116 in 2010 and steadily increasing to 161 in 2013. Finally, in Idaho, there are no data available for 2007 or 2008 and the number of fatal overdoses is too low to

discern trends. However, Idaho did see the number of fatal meth-related overdoses reach 32 in 2013, which was higher than any other year in the previous decade.

Figure 24: Estimated Fatal Meth-Related Overdoses: Oregon and Surrounding States, 2004-2013

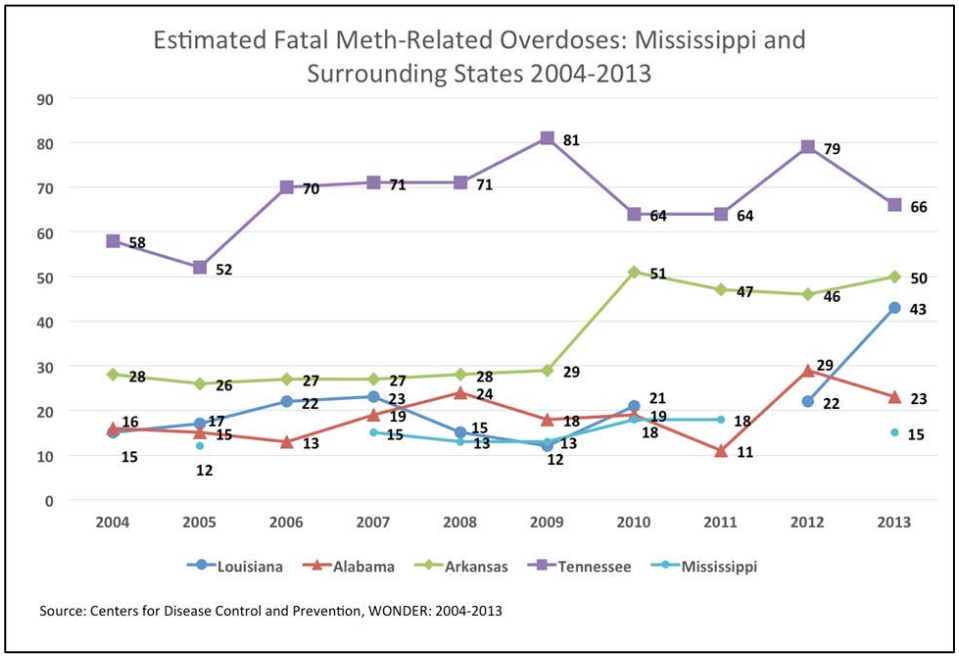


Mississippi and Surrounding States

The Mississippi State Medical Examiner did not provide data on meth-related fatal overdoses, so the estimates derived from the CDC's WONDER system are the only available source of data. Figure 25 shows that, although data are not available for all years, fatal meth-related overdoses in Mississippi remained consistently low throughout the study period, fluctuating from 12 to 18 fatal overdoses per year. In Alabama, the number of fatal overdoses also remained consistently low, with fluctuations from a low of 11 in 2011 to a high of 29 in 2012. In Louisiana, the number of fatal overdoses fluctuated in the same range as Alabama and Mississippi between 2004 and 2012. However, the number of fatal overdoses increased significantly in 2013, rising to 43.

Arkansas and Tennessee's meth-related fatal overdoses are noticeably higher. The number of fatal overdoses in Arkansas was consistent from 2004 to 2009, fluctuating between 26 and 29 per year. In 2010, the number increased to 51, and has remained constant ever since, fluctuating between 46 and 50. The number of fatal overdoses in Tennessee decreased slightly from 58 in 2004 to 52 in 2005 and then increased to 70 in 2006. The number remained near constant through 2008 before increasing again to 81 in 2009 and declining to 66 by 2013.

Figure 25: Estimated Fatal Meth-Related Overdoses: Mississippi and Surrounding States 2004-2013



Justice Reinvestment Initiative – A Possible Influencing Factor

While PSE prescription-only laws and other efforts to address meth production and availability may be responsible for the trends discussed in this report, other factors may also have an effect. The Justice Reinvestment Initiative (JRI) is one such factor, with its reforms potentially affecting crime rates and associated arrests, as well as other trends such as meth use in participating states. As participating states were adopting JRI reforms at roughly the same time as the expansion of laws to prevent PSE diversion, further research and statistical modeling is necessary to determine the distribution of effect.

Justice reinvestment is a data-driven strategy to improve public safety, reduce criminal justice spending, and reinvest savings in strategies that can decrease crime and improve quality of life. In 2010, Congress appropriated funds to the U.S. Department of Justice's (DOJ) Bureau of Justice Assistance (BJA) to establish the JRI, building upon ongoing state-level initiatives (LaVigne et al, 2014). In the several years prior, some states had begun efforts to better use data to inform criminal justice policy reforms and the initial results were successful enough that Congress determined that a formalized, federal approach was appropriate. Partnering with Pew Charitable Trusts, BJA developed such an approach, providing technical assistance (TA) and financial support to select states that request TA from the JRI (LaVigne et al, 2014).

Under the JRI model, BJA selects from among the states that request TA, ensuring that participating states have secured support from all key stakeholders, and directs states to establish a "bipartisan, interbranch working group of elected and appointed state and local officials" (LaVigne et al, 2014, 1). This working group collaborates with technical experts to identify issues affecting public safety, prison population growth, and criminal justice costs through data analysis. The group then develops policy

solutions with the support from stakeholders throughout the criminal justice system and helps ensure that these solutions are enacted through legislation or other policy means. Savings derived from these reforms are then reinvested in additional criminal justice system improvements. Throughout this process, BJA provides TA on how to identify issues, implement solutions, and track progress and outcomes (LaVigne et al, 2014).

Although every state has a unique criminal justice system and unique concerns, common issues among states participating in the JRI are: (1) high rates of parole and probation revocations, (2) use of incarceration instead of probation or diversion programs, (3) insufficient supervision and support for offenders re-entering the community, and (4) inefficient parole review systems (LaVigne et al, 2014).

To address these issues, participating states have implemented a number of policy solutions, including: (1) individualized risk and needs assessments; (2) accountability measures for justice system personnel, including requiring justification for diverging from sentencing guidelines; (3) sentencing reduction systems based on offenders' good behavior; (4) alternatives to reincarceration for certain parole and probation violators; (5) expanding community-based re-entry services, including substance abuse treatment programs; (6) revising sentencing guidelines; (7) expanding the use of mandatory post-re-entry supervision programs; (8) expanding or developing problem solving courts; and (9) improving parole system processes and expanding use (LaVigne et al, 2014).

States Participating in JRI

Mississippi

In 2013, Mississippi joined the JRI and established its working group with the Department of Corrections Commissioner as chairman. The working group identified several opportunities for reform, including clarifying eligibility requirements for parole, expanding judicial discretion to assign diversion programs, standardizing drug courts and establishing a veteran's court system, and creating an oversight council to ensure outcome tracking (Mississippi Governor Press Office, 2014). These recommendations were implemented by law in 2014 (HB 585), and the state is currently in the process of enacting them.

While no outcomes are yet available, state officials anticipate that the reforms will reduce the prison population and provide $266 million in savings over the next 10 years (Mississippi Governor Press Office, 2014).

Oregon

Oregon joined the JRI in 2012 to build upon the work developed by the Oregon Commission on Public Safety. The commission was established by Oregon Governor John Kitzhaber (D) in 2011 as a "bipartisan, interagency working group" (LaVigne et al, 2014, 105) created to identify the causes behind the state's 50 percent prison population growth from 2000 to 2010 (LaVigne et al, 2014). Re-tasked as the JRI working group, the Commission members developed a number of policy recommendations based on the common policy solutions described above, including repealing certain mandatory minimum sentences and improving offender re-entry services (LaVigne et al, 2014). The Oregon Legislature approved 13 of the working group's 19 recommendations through legislation in 2013 (HB3194), which was signed by the governor.

The recommendations are still being implemented; however, state officials project that the polices will reduce prison population growth by 870 inmates over 10 years (LaVigne et al, 2014). While no savings have yet been realized, the state made an upfront investment of $58 million to expand public safety programs, including improved law enforcement training (LaVigne et al, 2014).

Alabama

In 2014, Alabama Governor Robert Bentley (R), Alabama Supreme Court Justice Roy Moore, and state legislative leaders contacted BJA to request participation in the JRI, also requesting that the Council of State Governments' (COSG) Justice Center provide "intensive technical assistance" (COSG, 2014, 1). After receiving approval to participate, the Governor and legislature approved a bill (SJR 20) establishing the state's JRI working group to develop policy recommendations for consideration by the legislature (COSG, 2014).

Arkansas

In 2010, Arkansas Governor Mike Beebe (D) and Arkansas State Supreme Court Chief Justice James Hannah established a JRI working group to address concerns about the state's growing prison population. The working group made a number of recommendations, which were implemented by law in 2011 (Act 570). These recommendations included expanding the use of evidence-based practices within community supervision programs, implementing new accountability measures, improving the parole system, and revising sentencing guidelines "to differentiate between low- and high-level offenders" (LaVigne et al, 2014, 57) with drug or theft charges (LaVigne et al, 2014).

After implementation, from 2011 to 2012, Arkansas' prison population decreased nine percent, and state officials project that overall prison growth will be reduced by 3,200 offenders over 10 years (LaVigne et al, 2014). With the savings associated with the initial population decrease, the state invested $2.4 million in improved offender re-entry services, including behavioral health services (LaVigne et al, 2014).

Idaho

In 2013, Idaho joined the JRI and the Idaho legislature established a bipartisan Interim Legislative Committee to serve as the state's working group. The committee identified three primary issues in the state's criminal justice system: (1) high recidivism rates, (2) excessive revocations of parole for non-violent offenders, and (3) lack of system accountability or oversight (BJA, n/d). To address these issues, among other recommendations, the committee proposed expanding community-based services for offenders re-entering the community, improving training for community corrections officers, restructuring the available sanctions for parole and probation violators, and establishing an oversight committee. Governor Butch Otter (R) and the state legislature unanimously approved a bill (SB 1357) in 2014 to implement these recommendations (BJA, n/d)

Although implementation is still ongoing, state officials project that the reforms will yield $288 million in criminal justice savings over the next five years. State officials expect to reinvest $33 million of these savings into further expanding corrections officers' training, improving community-based services, and

supporting victim restitution strategies. The governor and state legislature approved $4 million in initial funding as part of the FY2015 state budget (BJA, n/d)

Louisiana

In 2008, prior to the establishment of the JRI, the Louisiana Legislature approved two bills (Act 916 and Act 629) reestablishing and reforming the Louisiana Sentencing Commission, with the mandate to research potential improvements to criminal justice system outcomes, recidivism rates, and re-entry procedures (LaVigne et al, 2014). The state joined the JRI in 2010, using the Sentencing Commission as its working group. In 2011 and 2012, Governor Bobby Jindal (R) and the Louisiana Legislature approved legislation to implement recommended JRI policy solutions, including expanding the use of evidence-based practices throughout the criminal justice system.

After implementation, Louisiana's prison population decreased slightly from 2012 to 2013 and is expected to continue to decline through 2017 (LaVigne et al, 2014). With the savings associated with this initial decrease, the state invested $1.7 million to expand community-based substance abuse treatment for offenders (LaVigne et al, 2014).

Washington

Washington has consistently implemented newly available criminal justice best practices, and its prison population grew at a significantly slower rate than most other states in recent years (BJA, n/d2). In 2014, Washington joined the JRI to further improve its criminal justice system and Governor Jay Inslee (D) created the Justice Reinvestment Taskforce to serve as the state's working group. The working group is tasked primarily with examining issues surrounding sentencing guidelines, such as how they relate to persistent offenders, how they impact county jail costs, and how they affect the state's property crime rates (BJA, n/d2).

States Not Participating in JRI

As of June 2015, there are 24 states and 17 local jurisdictions participating in the JRI. California, Nevada, and Tennessee are among the 26 states that are not participating (BJA, 2015). However, three counties in California are participating in the JRI as local jurisdictions: Yolo County, the City and County of San Francisco, and Santa Cruz County. All three counties are still in the process of identifying issue areas and potential solutions, with no new policies yet implemented (CRJ, n/d).

Summary and Recommendations

This study reviewed the most recent publically available data to assess the current meth landscape in Oregon and Mississippi, two states that have implemented regulations that limit PSE products to individuals with valid prescriptions. The effects of these laws on the number of lab incidents have been studied in recent years, but those studies have yielded mixed and inconclusive results. A GAO report concluded that the lab incident reductions in Oregon were statistically significant and the result of the PSE prescription law, while two other widely cited studies found that these declines were not significant and that there is little about the Oregon experience that is different from the regional trends. While there is no doubt that the number of meth lab incidents decreased in both states after the laws were implemented, the underlying explanatory factors about the decline remain arguably unknown. From our

analysis, we find the relationship between the PSE prescription laws and the decline in meth lab incidents spurious for the following reasons:

- Similar decreases in the number of meth lab incidents occurred in surrounding states for both Oregon and Mississippi, suggesting a regional trend as opposed to a unique event in each of the two states, and making the case for the laws' impact even less significant.
- All traditional drug problem indicators (use, treatment admissions, arrests, and drug-related deaths) point to meth as remaining a great threat in both states, especially Oregon.
- Lab incidents were reduced before the passage of the PSE prescription law in Oregon.
- Law enforcement agencies in Oregon and Mississippi report that meth supply has remained plentiful throughout the study period, with meth imported from Mexico making up for any lost domestic meth production.
- It is possible that that the decline in labs was more due to outside sources of supply rather than the passage of PSE prescription legislation. Mexican traffickers may have contributed to the decline in meth labs in Oregon and Mississippi (and surrounding states), as they were able to provide ample supply of equal or greater quality meth at competitive prices.

If NAMSDL is considering developing any model legislation that would expand PSE prescription laws to the national level, we recommend that it delay doing so until several uncertainties can be addressed. First, the rationale behind the development of the PSE prescription laws in Oregon and Mississippi should be reviewed. It is important to know the reasons why the laws were deemed necessary and determine whether any other factors were occurring at the time of implementation. Drug markets are dynamic and can change quickly. What was happening five to ten years ago (when these PSE laws were enacted) may be different today. Second, NAMSDL should identify the true determinants of the decline in meth labs in Mississippi, Oregon, and their surrounding states. The research to date presents conflicting findings about the real impact of the laws on lab incidents. It remains unknown why Oregon, Mississippi, and their surrounding states experienced the same decreases in the number of lab incidents after the PSE prescription laws were implemented. Perhaps Federal precursor laws or the introduction of meth from Mexico contributed to the trend, but more research is required to help NAMSDL shape future agendas. Finally, NAMSDL should examine the extent to which the PSE law has affected doctor prescribing practices, licit consumers, and the overall health care system. This area was addressed in the GAO report, but was inconclusive. More time has passed since the report was released (January 2013), allowing the landscape to evolve, settle into more consistent patterns, and permit more data to be used for analysis. It is important for NAMSDL to know how or if these laws will affect the general public, should they be extended on a national scale.

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