Smurfing in Small Toxic Meth Labs: Impact of State Methamphetamine Precursor Policies

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Over the past 12 years, 31 states have implemented a wide variety of policies to curb methamphetamine production in small toxic labs. This qualitative study explores the perceived impact of methamphetamine precursor laws in five states. Researchers conducted individual and focus group interviews with 77 key state policy makers and law enforcement personnel. Themes included barriers to development, perceived effectiveness and impact, effective provisions, and unintended consequences. Researchers suggest policy recommendations in light of renewed calls by policy makers and law enforcement personnel to address the recent rapid rise in small toxic lab seizures.

KEYWORDS methamphetamine precursor laws, methamphetamine policy, small toxic labs (STL), child welfare policy, pseudoephedrine
INTRODUCTION

Domestic production of methamphetamine in small toxic labs (STLs) creates significant community health, safety, and child welfare consequences. The rapid rise of STLs in the mid-1990s resulted in a large number of states implementing methamphetamine precursor laws to reduce or eliminate access of pseudoephedrine (PSE), the key ingredient needed to produce methamphetamine. This article explores the impact of state-level methamphetamine precursor laws in five key states from the perspectives of key policy makers and law enforcement personnel who were most directly involved in the effort to eliminate small toxic labs used to produce small batches of methamphetamine. As rates of small toxic lab seizures are again rising rapidly in almost all states with prior STL problems (National Drug Intelligence Center, 2011), policy makers in some states are revisiting these laws to determine ways to strengthen or change them to address the rapidly shifting environment of methamphetamine production. Qualitative interviews with key policy makers and law enforcement personnel can provide relevant insights to a rapidly re-emerging problem in states with high STL rates.

BACKGROUND

While the consumption of methamphetamine in the general U.S. population appears to have been fairly stable in both youth and adult populations over the past 10 years (Substance Abuse and Mental Health Services Administration (SAMHSA), 2010; Johnston O'Malley, Bachman, & Schulenberg, 2007; National Survey on Drug Use and Health, 2005), rates of drug treatment admissions for methamphetamine-related problems increased from 53,694 to 137,154 between 1997–2007 (SAMHSA, 2009). In addition, the number of new users showed a 38% increase between 2008 and 2009 (SAMHSA, 2010). A recent study by the Rand Corporation estimated methamphetamine’s economic costs to the United States at between $16.2 billion and $48.3 billion (Nicolsia, Pacula, Kilmer, Lundberg, & Chiesa, 2009). These trends are consistent with increased methamphetamine purity and availability, combined with lower prices in the United States (National Drug Intelligence Center (NDIC), 2011).

Methamphetamine production and use is associated with significant community health and safety consequences, especially when produced in small toxic labs (STL) (Lineberry & Bostwick, 2006; Sexton, Carlson, Leukefeld, & Booth (2006a). Consequences include increased, sustained, and violent criminal behavior (Cartier et al., 2006; Cretzmeyer, Sarrazin, Huber, Block, & Hall, 2003; Hansell, 2006; Kyle & Hansell, 2005; Sommers, Baskin, & Baskin-Sommers, 2006), increased risk of child abuse and neglect (Dube et al., 2003; Mecham & Melini, 2002), along with homelessness and
removal of children from homes by the child welfare system (Hohman, Oliver, & Wright, 2004; Kyle & Hansell, 2005; Connell-Carrick, 2007). In addition, direct exposure to toxic chemicals and related fumes can result in chemical burns and a variety of other health-related consequences, with children being particularly vulnerable (Barr et al., 2006; Farst et al., 2007). Researchers have found that between 35–45% of children removed from lab sites test positive for methamphetamine, with 70% under the age of four years (Mecham & Melini, 2002).

Cleanup of STLs also results in significant health and safety costs as first responders encounter toxic chemicals and health department and public safety personnel attempt to clean up hazardous waste spills and environmental pollution, including ground and water contamination (Barr et al., 2006; Cooper et al., 2000; Farst et al., 2007; McFadden, Kub, & Fitzgerald, 2006).

Small toxic labs (STLs) are generally defined as laboratories that produce one pound or less of methamphetamine per cooking cycle, and were estimated to provide approximately 20% of the U.S. methamphetamine supply in 2006 (O’Connor et al., 2006). These labs and the resulting methamphetamine are relatively easy to create, particularly with the recent emergence of the “one-pot” or “shake and bake” laboratories (Associated Press, 2009; Brown, 2010; Saulny, 2010). Methamphetamine is synthesized from simple household chemicals and one of two precursor chemicals—pseudoephedrine (PSE) or ephedrine, ingredients that are found in most cold medicines which can be purchased in local drug stores and pharmacies (Hunt, 2006). Because methamphetamine is easy to manufacture and is relatively inexpensive for users to produce, those dealing with meth-related problems remain concerned that STL methamphetamine production will continue to be a problem in the future (Bovett, 2010; Brown, 2010) unless avenues of access to the precursor chemicals are greatly reduced or eliminated. Data from the Drug Enforcement Agency’s (DEA) National Clandestine Laboratory Database (NCLD) (recently re-named the National Seizure System (NSS)) documented a large increase in the number of STLs in the early 2000s, with a movement of increasing numbers of labs from West to East. The NCLD reported 7,438 methamphetamine STL seizures in 1999 (including labs, dumpsites, and chemicals/glass/equipment), with highest national rates topping out at 18,091 in 2004 (DEA, 2011). In response to this rapid growth, 31 states began passing methamphetamine precursor laws designed to limit access to precursor chemicals and enhance penalties for buyers and sellers of these precursors (O’Connor, Chriqui, & McBride, 2006). In addition, in 2005 the federal government became more directly involved by passing the Combat Methamphetamine Epidemic Act (CMEA). This act provided a nationwide approach to controlling access to precursor chemicals but did not preempt more stringent state laws (O’Connor et al., 2007).

Anecdotal reports (including those in this article) and congressional testimony indicated that significant decreases in STL seizures followed the enactment of these precursor policies (Office of National Drug Control
Policy (ONDCP), 2006; Rutledge, 2004; Wright, 2004). Drug Enforcement Administration (DEA) tracking of STL seizures substantiated these reports, with nationwide rates dropping by two-thirds (66%) between 2004 and 2007 (DEA, 2012). DEA data indicated a great deal of variation in seizure rates between states, with some states almost completely eliminating lab seizures and other states reducing rates by less than one-fourth (DEA, 2012). A recent analysis by McBride and his colleagues (2011) showed that states which adopted methamphetamine precursor laws had the greatest reduction in STL seizures. The most effective and comprehensive policies involving quantity limits on methamphetamine precursor purchases, clerk intervention requirements (such as requiring buyer identification), and regulatory agency specification for monitoring compliance and tracking multiple purchases by means of a centralized electronic database. Findings also indicated that both federal and state policies independently influenced reductions in STL seizures. Criminalizing purchasing violations was not related to STL reductions.

However, limited research suggests these precursor laws had only short-term impacts, leading to temporarily reduced use rates, hospital admissions, and methamphetamine arrests (Cunningham & Liu, 2003; 2005; Cunningham, Liu, & Callaghan, 2009). Other research (Nonnemaker, Engelen, & Shive, 2010) suggests that while domestic production appears to have been temporarily reduced by precursor laws, there is also evidence of lower methamphetamine prices and higher drug purity. Other researchers (Cunningham et al., 2009) found evidence that U.S. regulations targeting large-scale producers resulted in purity declines but those targeting small-scale producers had little or no effect. Further evidence indicates that methamphetamine use rates have again begun to rise as Mexican drug trafficking organizations have found new ways to acquire precursor chemicals and discovered non-ephedrine-based methods of methamphetamine production (National Drug Intelligence Center, 2011). Methamphetamine lab seizure rates in the United States showed similar signs of growth, with seizures increasing from 6,095 in 2007 to 10,287 in 2011, a 41% increase (DEA, 2012).

Borders et al. (2008) argue that precursor laws in Arkansas and Kentucky did not appear to impact methamphetamine use rates at all among their rural study participants (although STL seizures did show significant reductions). STL producers also found ways around the precursor laws. For example, in order to bypass the PSE purchasing limits found in precursor laws and evade poor and/or inconsistent monitoring of cold medicine purchases, meth users and STL methamphetamine producers say they use a process known as “smurfing” in which multiple shoppers move from store to store, purchasing the maximum allowable number of cold medicine packages to skirt around precursor laws (Sексон, Carlson, Leukefeld, & Booth, 2006a).

While official data and anecdotal reports suggest that state policy changes played an important role in the observed decrease in STL methamphetamine production up until 2007, there has not been a multistate
scientific analysis of the elements of states’ enacted legislation or adopted regulations restricting access to methamphetamine precursors that correspond with STL seizure decreases. In order to provide such an analysis, the authors conducted a research project with three objectives: (1) document state methamphetamine precursor laws/regulations in effect as of October 1, 2005; (2) examine the perceptions of key informants in five states (including law enforcement personnel, policy makers, pharmacists, and Drug Endangered Children (DEC) personnel) of the impact of precursor policies on STL production of methamphetamine; and (3) examine the relationships between state methamphetamine precursor policies and trends in STL seizures after the implementation of such policies. The first objective was addressed in a 2007 report by O’Connor et al. (2007). The third objective was addressed in a separate analysis (McBride et al., 2008; 2011).

The second objective is the subject of this article. The primary purposes of the key informant and focus group interviews were to (1) examine key informants’ perceptions of the impact of their state’s precursor laws; (2) explore key informants’ perceptions of the organizational and procedural facilitators and barriers to successful implementation of the law(s); and (3) document key informants’ perceptions of the relative importance of various precursor law provisions. Specifically, this article will report on key informant and focus group participants’ perceptions of methamphetamine precursor policies related to ephedrine and pseudoephedrine (PSE). These two chemicals were emphasized because they are the most common precursor chemicals available in over-the-counter health care products and there was a broad, consistent focus on these two precursor chemicals in the state policies. The article will conclude by discussing the implications of this study’s findings in light of a companion quantitative analysis (McBride et al., 2011), rapidly rising STL seizures, and increasing use of the “one-pot method” of cooking methamphetamine.

METHODS

State Selection. State selection drew upon available 2006 state-level data regarding the extent of methamphetamine STL seizures and extant state and federal legal frameworks attempting to reduce the availability of methamphetamine precursors. States were also considered based on general consumers’ degree of access to PSE products. The states selected for the interviews included

1. Indiana: Midwestern state with a high number of STL seizures; no controlled substance scheduling requirements for PSE; no centralized tracking system for PSE purchases.

2. Kentucky: Southern state with high number of STL seizures; no controlled substance scheduling requirements for PSE; pharmacy sales only; no centralized tracking system.
3. Missouri: Midwestern state with highest number of STL seizures in nation; Schedule V (pharmacy sales only) controlled substance requirements for PSE; no centralized tracking system.

4. Oklahoma: Southwestern state with formerly high rates of STL seizures but dramatic reduction in rates attributed to precursor law; Schedule V controlled substance requirements for PSE; centralized tracking system in place.

5. Oregon: Western state with formerly high rates of STL seizures but virtual elimination of all STLs in state; Schedule III (physician prescription only) controlled substance requirements for PSE; no centralized tracking system in place.

Within each of the five states identified above, specific counties with the highest concentrations of methamphetamine STLs and related indicators were identified based on (1) media accounts (including Internet key word searches; review of all methamphetamine-related newspaper reports from large and medium-sized cities; key word searches utilizing the Media Awareness Project’s Drug News Archive (www.mapinc.org, a searchable database of news and opinion pieces related to drug policy); (2) county-level Drug Enforcement Administration outcome data; and (3) recommendations from El Paso Intelligence Center (EPIC) and National Alliance for Drug Endangered Children (DEC) staff. A full report of this project contains further details regarding methodology and state-specific findings (VanderWaal et al., 2008).

Key Informant Description and Selection

Key informant interviews and focus groups were conducted with law enforcement, state policy makers, pharmacy personnel, and DEC taskforce members. This article primarily focuses on law enforcement personnel and state policy makers. Law enforcement personnel included local, regional, and state law enforcement personnel, including local narcotics officers, county sheriffs, state troopers and narcotics officers, prosecuting and district attorneys, and several regional DEA taskforce coordinators. State policy makers included at least two state legislators for each state of focus; generally the primary House and Senate sponsors of the bill.

Using the media search process described above, initial key informants were first identified within each specified county who had been heavily quoted by the media as knowledgeable about methamphetamine issues. A snowball sampling methodology was next utilized to identify additional potential interview subjects in the case study communities that had high state concentrations of methamphetamine labs, child seizures, or other related indicators.
Interview Process

Between July 2006 and March 2007, 77 individuals were interviewed across all five states using either an individual or focus group interview format. Interviews were conducted using a semi-structured interview guide that included opportunity to explore key themes as they emerged. All participants completed Institutional Review Board-approved interview consent forms prior to the initiation of the key informant or focus group interviews. Confidentiality was assured for all participants unless they were speaking within their roles as publicly elected officials.

Analysis

Reliable coding procedures were established using the constant comparative analytic coding method based on a Node and Tree structure approach. Open coding was used to confirm and elaborate on preliminary themes and key word categories, resulting in the development of a final analytic codebook with coding definitions reviewed by the entire research team for validity. Using the qualitative software package QDA Miner, research assistants independently read and completely coded two interviews using axial coding and then worked to reconcile differences between codes. Areas of continued disagreement were reconciled by the study’s co-investigator on an as-needed basis. Inter-rater reliability varied between approximately 75%–90% throughout the coding process.

Content analysis was completed and key themes and issues that were discussed in the interviews were summarized. Interviews of a similar type (e.g., local law enforcement practitioners) were reviewed and integrated within and across specific codebook themes. Final state reports were based on integration and summary of these key themes, with frequent illustrations of the themes using quotes from the key informants.

FINDINGS

Nature of the Methamphetamine Problem in the State

Legislators and law enforcement personnel in all the states studied described the often devastating impact of STL-based methamphetamine in relationship to law enforcement, public safety, child safety, and public health. Law enforcement officials in all counties described an overwhelming focus on STLS and methamphetamine-related issues, often to the exclusion of other law enforcement duties. This included a high percentage of prosecutions for methamphetamine-related activities and large and rapidly growing portions of corrections and child welfare budgets used to address these issues.
Concerns about hazardous materials also ranked high in the minds of law enforcement personnel. Although some states had received Federal government assistance with some STL cleanup, the local costs and consequences to the environment and surrounding community were substantial. Law enforcement officials noted additional concerns regarding the safety of the environment when officers were required to raid and dismantle STLs. In addition, law enforcement officials noted ongoing concerns about safety in relation to crime and drugs.

... when you've got a small department that's got six guys in a house for seven hours processing [the STL investigation] ... what else is going on in that town that the officers could really be dealing with other serious issues. And so, I mean, there's other crimes that kind of get ignored while this stuff’s going on.

—Law enforcement, Oklahoma Bureau of Narcotics and Dangerous Drugs Control, Oklahoma

... it is a tremendous problem with the meth labs, particularly in western Kentucky. I'm in an area what you would call northern Kentucky [and] in the far west was where they were really having the problem with this. It was not only a problem of drug abuse, it was a problem of safety...

Senator Roeding, Kentucky State Legislature

One of the most consistent points noted by all key informants was the impact on children. Key informants noted that methamphetamine was often produced in home environments where small children were playing within the room where the methamphetamine was produced or in the yard where toxic chemicals were stored or dumped.

... that particular year they had taken 57 children out of meth labs out of Green County. Fifty-seven! Of those 57, 49 tested positive for methamphetamine, either on their clothes, on their skin or in their system. And one as small as a two-year-old baby who had been crawling around in the kitchen where the lab was being, where they were cooking stuff. Two years old, in his system! Again, children - you hear those kind of figures and it shakes you up. What's going on here?

—Law Enforcement, Vigo County, Indiana

We were so overwhelmed with just the problem of methamphetamine labs and what to do with them, they were so time consuming and tiring. And we didn’t, you know, we’d go into a room and maybe see a kid's toy or something and wouldn’t give the full impact of “Hey, we've got to see if that kid’s been in this environment, are they going to school, do they live here”. And so it wasn’t until [name of senior law enforcement
officer] created a clan lab team which was just a huge benefit and they started picking that up and saying, “Okay, if we see any sign of a kid, we’re going to find out if that kid has been in this environment, you know, whether or not we need to help them out. . . .”

—Law enforcement, Washington County, Oregon

Barriers to Development of Precursor Laws

Most of the resistance described by key informants to the development of strong precursor laws came primarily from either the pharmaceutical or consumer retail industries. Lobbyists from the pharmaceutical companies created strong resistance in a number of state legislatures; however, once the law was enacted, key informants stated their resistance dropped after development of new cold medicine formulation based on phenylephrine (also known as PE). A law enforcement official from Jackson County, Missouri commented:

I think the biggest problem that we’d heard from anybody was the lobbyists for the pharmaceutical companies. And then . . . once it got implemented, then here comes the Sudafed PE. So, it’s just a money-making thing.

In another sign of reduced resistance, several large chain pharmacies also voluntarily moved PSE products behind the counter in stores across the nation.

Strong resistance also came from the retail industry, particularly from lobbies representing small convenience stores. Representative Bill Friend of the Indiana State Legislature reported experiencing pressure to keep the legislation from being too hard on the retail industry.

. . . one of the things I do remember about all of the discussions that we had was the constant comparison to the Oklahoma law and there were other states that had done things differently. They [retail industry lobbyist] all approached the display and distribution and availability of ephedrine products and what they were going to require the drug stores to do. I’ve got the guy from Retail Counsel whispering in my ear—no, he was yelling in my ear—“Don’t make it so hard to comply, don’t make it so difficult that it is a real burden for us to take care of it.”

In some states the retail industry worried about the hassles and difficulties of compliance, while in several states this resistance was linked to gas stations with convenience stores that were selling large quantities of PSE products. A law enforcement official from Oklahoma County, Oklahoma noted that much of the resistance from convenience stores arose from the loss of sales.
...’cause they [the pharmaceutical industry] look at it, if they sell more product, they make more product. And I fought this tooth and nail because the sales are just too large. Every convenience store around here was, a lot of them were selling this by the case. It’s just incredible and there were obviously people who sold the pseudoephedrine products were making profits from this. And that’s all they’re looking at it, that, you know, at the black line [profit] there.

Resistance was generally overcome through significant and highly publicized consequences, such as the killing of State Trooper Nicky Green in Oklahoma, or through strong education efforts and collaboration across multiple public interest groups, generally in strong partnership with determined law makers and state and local law enforcement organizations.

Interestingly, after some initial resistance on the part of a few people, the public in each of the states was judged by key informants to be generally supportive of the law because they understood the consequences of methamphetamine STLs and use in their communities.

I didn’t hear much public outcry about having to do that [move PSE products to Schedule V]. I think they were so well educated because of the dangers of it. I mean, you know, nightly you were seeing the fire department cleaning up a meth lab.

*Law enforcement, Oklahoma County, Oklahoma*

**Perceived Effectiveness and Impact of Precursor Laws**

Although states varied in the extent to which STLs had been reduced, every key informant who was interviewed for this project agreed that the states’ methamphetamine precursor laws had at least some initial impact on reductions in the number of meth STLs in their counties and communities. Key informants generally believed the impact of their state’s law(s) directly related to reduced harms from environmental hazards, fewer children in toxic settings, and reduced STL cleanup costs. A law enforcement official in Oklahoma County, Oklahoma, described the benefits he observed in his county:

First of all, we don’t have all these sites with the environmental problems, with the children being exposed to the chemicals, you know? We don’t have that and we don’t have all the manpower and resources tied up in this lab clean-up so that we can concentrate more on the particular problems out there as far as the drug dealers themselves and the organizations.

Another law enforcement official from Vigo County, Indiana, also noted positive results from the precursor laws.
I think what this county has eliminated is the environmental impact that these labs had on this county. It was being dumped, you know, trash and the high poisonous, you know, potions into the streams and along the roadways that leached in and down into our system. It’s certainly eliminated little children being put into foster care because of a meth lab. And that’s been a savings to not only this county but to the state.

In some states, like Oregon and Oklahoma, this reduction was immediate and dramatic. A law enforcement official from Multnomah County, Oregon, described the transformation:

...meth labs just basically dropped off the face of our investigative activities. I mean in 2003 we had 56 labs that we seized. In 2004 we had 116 labs... In 2005 we dropped down to 20 labs for the year, so a huge drop. In 2006 they had like 10, 11 labs. And then, of course, this year we haven’t had any at all. So we took it out of the picture—meth labs in the area. The law did exactly what we said that we wanted it to do. We drove the legislature to the public and said “Hey, our goal here is not to cut down on the amount methamphetamine here, although we would love to do that, but our main goal was to get these hazardous chemicals and these hazardous labs that were going on in our neighborhoods”...

and that worked.

In the rest of the states, the reductions were perceived as significant but not as large as Oregon or Oklahoma. Based on an initial consideration of the differences in reductions between these states, one possible explanation may relate to: (1) degree of access to PSE products, and (2) degree of tracking and monitoring of PSE purchases within the state. Relative to degree of access, Oregon and Oklahoma had the most restrictive provisions in their laws (at the time of the interviews), requiring either a Schedule III (physician prescription only) or Schedule V (pharmacy purchase only) state controlled substance regulation. These states saw the greatest reductions in meth labs. Comparing Oregon’s lab seizure data from 2004 (the year prior to the law’s implementation) with year-end 2007, the DEA’s NCLD database recorded a 95% reduction in lab seizures. Similarly, Oklahoma’s lab seizures were reduced by 93% over a similar time period (National Drug Intelligence Center [NDIC], 2007).

On the other hand, Kentucky and Indiana, which did not require any scheduling of PSE products, experienced much less dramatic reductions in their STL seizure rates. Comparing Kentucky’s lab seizure data from 2004 (the year prior to the law’s implementation) with year-end 2007, the DEA recorded a 49% drop in lab seizures. Indiana fared worse, with only a 24% reduction in lab seizures over that same time period (NDIC, 2007).

Relative to tracking and monitoring purchases of PSE products, Oklahoma had also implemented a state-wide, real-time tracking system...
so pharmacists could electronically track, and law enforcement personnel could monitor, PSE purchases across the state. According to key informants, this dramatically reduced the smurfing behaviors of methamphetamine addicts and cooks. Although Missouri had also enacted Schedule V regulations, they did not yet have a state-based electronic tracking system, thereby allowing both individual and group smurbers more opportunities to purchase their legal limit of PSE products without being caught by law enforcement officers and pharmacists. Consequently, Missouri’s lab seizures were reduced by approximately 55% between 2004 and year-end 2007 (NDIC, 2007). Neither Indiana nor Kentucky had state-based, real-time tracking systems in place, although both states had counties that were experimenting with such systems (Appriss, 2006). Several web-based monitoring systems were also described by key informants in several counties in the hope that these systems could be adopted in their state or county.

While very few studies have carefully explored changes in states with high numbers of methamphetamine STLs, preliminary evidence from qualitative studies of methamphetamine producers and users in rural Arkansas and Kentucky found some anecdotal evidence that methamphetamine production decreased following implementation of state precursor chemical laws. Respondents attributed the reduction to a number of factors including increased enforcement, decreased availability of PSE products, as well as health, legal, and family issues (Sexton et al., 2006b; 2008; Borders et al., 2008).

Most Effective Elements of the Precursor Laws

In all states, perhaps the most obvious but critical factor in the effectiveness of the precursor law was that it restricted access to PSE products. The degree to which this was more or less successful appeared to be the major driving factor behind reductions in methamphetamine STL seizures.

It’s not the penalties because when you are an addict, you know, you really don’t care about the penalties or anything ’til you’re caught. It’s the regulating the ephedrine, that’s the key ingredient and if you regulate that you’re going to have a significant drop in the meth production.

—Law enforcement, Knox County, Indiana

Although key informants across all groups spoke, at one time or another, about every element of their law as being important to a greater or lesser degree, the primary focus of most key informants was on (1) the placement/location of PSE products (behind the counter); (2) the tracking of purchasers’ names in a log book, and, (3) the requirement of purchasers to show some form of identification.
Placement of PSE products behind pharmacy counters was considered to be most effective in Oregon, where physician prescriptions were required, and in Oklahoma, where electronic monitoring and enforcement were strong. Product placement appeared to be less effective in states without comprehensive monitoring systems.

Requiring customers to sign a logbook and show identification were both perceived by most key informants to be a deterrent against purchasing large quantities of PSE products since methamphetamine users and cooks were worried about being identified and caught. Representative Scott Lipke from the Missouri State Legislature said:

... just by virtue of requiring someone to show an ID and put their real name down, whether or not they think you’re going to able to track it or not, they know there’s a paper trail and you may not get them that day, or you may not get them by the time they make their first batch, but if you keep up and follow it you’re probably going to get them eventually ...

As noted previously, in states where electronic monitoring was not present, smurfers often moved easily from store to store, across counties, and even across state lines, moving to the areas with the weakest laws or the lowest levels of monitoring.

Although the majority of key informants in each state did not believe that increased penalties for PSE sales or possession served as a deterrent to people either producing or using methamphetamine, they did believe that it offered prosecutors a chance to build their case against a meth producer or dealer across a number of different types of infractions and purchases. The majority of key informants believed it was impossible to arrest their way out of the methamphetamine problem, instead believing that a strong combination of drug treatment and education were the primary ways to reduce continued drug problems.

When asked their impressions of how the federal Combat Methamphetamine Epidemic Act (CMEA) might impact their state’s law, both legislators and law enforcement officials believed that the federal law, although recently enacted, would not have a major impact in their state because their state already had stronger provisions than those found in the CMEA. Since the CMEA did not pre-empt their tougher state laws, most key informants (KIs) perceived the main benefit of this law as setting minimal standards for states bordering their own state that might have either weak or no methamphetamine precursor laws. Some law enforcement officials had already seen reduced smurfing behaviors across state borders, believed to be a result of the CMEA law.

The findings in the qualitative analysis are consistent with the quantitative findings from McBride et al. (2011). Specifically, limiting the quantity of purchases, product placement, clerk supervision and an agency responsible
for monitoring compliance was related to reduction in STL seizures. The qualitative data in the current study added complementary insights into how the various elements of the precursor laws influenced activities and behaviors in the field.

Unintended Consequences of the Law

Minor Impact. Law enforcement personnel and legislators perceived few or no negative unintended consequences from their state’s precursor law. For example, when asked “What were the negative impacts of the precursor laws?”, a law enforcement official from Vigo County, Indiana, responded

You know, I can’t think of any. I can only think of the good things that have happened. Can’t think of any bad consequences.

In interviews conducted with pharmacists, they observed that they and their customers experienced some negative impacts from the laws. In most states, there was an increase in paperwork, along with the hassles of dealing with irritated customers who had reduced access to PSE products. This was particularly true in Oregon, where a physician prescription was required to gain access to these products. Pharmacists and some customers were also sometimes frustrated by the relative ineffectiveness of the more convenient over-the-counter cold medicine products that do not contain PSE. However, with the exception of the generally minor inconvenience caused to customers who wished to have quick and ready access to PSE products, few other problems were noted by key informants.

Shift in Drug Distribution and Use Patterns. One partially anticipated change noted by law enforcement officials was a shift in drug distribution and use patterns as a result of methamphetamine STL reductions. Most noted that crystal methamphetamine, or ice, had filled the vacuum left by reductions in the supply of STL-produced meth, while others had observed increased distribution and use of other drugs including cocaine, heroin, and marijuana. Law enforcement personnel from Oklahoma County, Oklahoma and St. Louis, Missouri commented on the shift.

So I think two of the consequences have been far greater importation of ice than we ever thought, and with the increased cost on the street for ice, there has, I mean, there is an increase in property crimes to pay for that.

—Law enforcement, Oklahoma County, Oklahoma

But what we have seen now is a spike or a jump in the possession and use of crack and powder cocaine and marijuana has gone up for us.
Methamphetamine, which is a very small quantity, has pretty well stayed the same, but the labs have gone way down, but other drugs have gone way up, at least those two.

—Law enforcement, St. Louis Focus Group, Missouri

It is interesting to note that none of the key informants believed that the reduction or even elimination of meth STLs would significantly impact, or was currently impacting, the overall methamphetamine use rates in their states. More recent longitudinal data from the National Survey on Drug Use and Health is consistent with this observation (SAMSHA, 2010). Such concerns are important because the influence of drugs on families goes beyond the impact caused by STLs. Children are in danger of neglect and abuse in homes and locations where drugs are present, whether from STLs or homes of drug-abusing parents and relatives. Parents who use or distribute drugs often create a harmful atmosphere for children, including exposure to those who use or deal drugs, leaving drugs in the reach of children, and neglecting nutritional and emotional needs of children. However, there was little measurable data to support these perceptions. Both law enforcement officials and policymakers believed that the level of imported crystal methamphetamine that was available or being brought into their state would more than make up for any meth that was reduced due to reductions in STLs. Indeed, the National Drug Intelligence Center’s (NDIC) 2011 National Drug Threat Assessment reported that Mexican drug trafficking organizations and criminal groups have replaced decreases in STL production with methamphetamine that they are producing in Mexico (NDIC, 2011). Interestingly, several law enforcement personnel in our interviews noted that they preferred dealing with more traditional drug manufacturing and distribution networks because they did not have to make STL seizures and deal with the associated problems of children in the residences, environmental costs, and various dangers to first responders.

LESSONS LEARNED AND POLICY RECOMMENDATIONS FOR STATES

Each state had a variety of lessons learned and recommendations, colored by the unique components of their law and a wide variety of other factors. However, there were consistent lessons and policy recommendations that crossed all state boundaries. This section will focus on lessons and policy recommendations that were common to most or all states, with commentary to reflect the resurgence of STL seizures and corresponding changes in precursor laws.

1. Recognize the progress made in reducing harms associated with meth STLs and continue to work toward the reduction of all STLs. As noted
earlier, virtually every law enforcement official and legislator recognized the major public safety, child safety and public health benefits to STL reductions. They consistently noted fewer drug endangered children, lower community costs from the clean-up of toxic sites, and less risk to law enforcement and first responders entering an STL site. However, these reductions have not remained stable in most states (NDIC, 2011). For example, while Oregon’s STL lab seizures have remained extremely low, with only 12 lab seizures in both 2010 and 11 seizures in 2011 (DEA, 2012) (see Table 1), Oklahoma’s STL seizure rates have climbed from a low of 93 lab seizures in 2007 to startling 916 seizures in 2011 (DEA, 2012).

2. Adopt physician prescription requirements for PSE or, less ideally, develop an electronic, real-time, state-based reporting system. The most common recommendation by key informants was for an electronic state-based reporting system that allowed for real-time tracking of PSE purchases. Such a system would allow retailers and pharmacists to know when a customer’s last purchase had been made and would alert them to customers who had purchased over their legal limit. This system would also allow law enforcement personnel to track and follow up on PSE purchasers who attempted to violate the law, although some courts are challenging the search and seizure processes for such law enforcement activities (Goetz, 2007). Several states believed tracking systems would work best if centralized through the state’s pharmacy board, particularly if Schedule V regulations were in place. Kentucky, Oklahoma, Arkansas, Louisiana, Illinois, Missouri, Kansas, Washington, and Alabama all have implemented systems to track pseudoephedrine product sales (ONDCP, 2010). Officials in Oregon noted that this system was not necessary with Schedule III regulations since a physician’s prescription already requires this automated tracking mechanism. Recognizing Oregon’s success, Mississippi enacted a similar physician prescription law in 2010 (ONDCP, 2010) and state lawmakers in Missouri, California, Colorado, Oklahoma, Oklahoma,

### Table 1: Selected State Comparisons of Methamphetamine Lab Incidents, Including Labs, Dumpsites, and Chem/Glass/Equipment, 1999–2010

<table>
<thead>
<tr>
<th>Year</th>
<th>Indiana</th>
<th>Kentucky</th>
<th>Missouri</th>
<th>Oklahoma</th>
<th>Oregon</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004</td>
<td>1,132</td>
<td>589</td>
<td>2,820</td>
<td>679</td>
<td>467</td>
</tr>
<tr>
<td>2005</td>
<td>1,057</td>
<td>580</td>
<td>2,240</td>
<td>237</td>
<td>190</td>
</tr>
<tr>
<td>2006</td>
<td>760</td>
<td>326</td>
<td>1,300</td>
<td>194</td>
<td>50</td>
</tr>
<tr>
<td>2007</td>
<td>805</td>
<td>237</td>
<td>1,261</td>
<td>93</td>
<td>21</td>
</tr>
<tr>
<td>2008</td>
<td>739</td>
<td>427</td>
<td>1,477</td>
<td>134</td>
<td>19</td>
</tr>
<tr>
<td>2009</td>
<td>1,539</td>
<td>705</td>
<td>1,761</td>
<td>614</td>
<td>12</td>
</tr>
<tr>
<td>2010</td>
<td>1,213</td>
<td>1,070</td>
<td>1,917</td>
<td>485</td>
<td>12</td>
</tr>
<tr>
<td>2011</td>
<td>1,354</td>
<td>1,084</td>
<td>2,058</td>
<td>916</td>
<td>11</td>
</tr>
</tbody>
</table>
and Montana are considering or have recently rejected similar proposals (Cardona, 2011; Green, 2011; Knutson, 2009).

3. Improve training of child welfare workers and strengthen collaboration between Drug Endangered Children’s Units and child welfare workers. Child welfare workers must be trained to recognize the presence of methamphetamine paraphernalia and labs in the home. They must also learn to conduct initial screens to determine the need for drug detoxification and treatment for children found at drug-bust sites. In addition, they must learn to work effectively with police teams who are trained to make arrests and secure the drug-bust site, but are seldom trained to evaluate the health, safety, and emotional status of children found at lab sites. Some states have worked with social workers and other professionals to develop Drug Endangered Children’s Units (DEC). These units provide more appropriate on-site care and follow-up for children as well as advocate for better training and policies regarding drug-endangered children (National Alliance on Drug Endangered Children, 2012).

4. Develop and/or expand collaborative relationships with all major stakeholders. Social workers often serve as liaisons between multiple agencies, including child protective services, the police, medical personnel, and drug treatment programs. Multi-disciplinary teams allow social workers and other members of the team to carry out their responsibilities while continuing to protect the children. They often maintain dual roles as both a representative of the child welfare system and as an advocate for their clients. Key informants in our study described a variety of collaborative partnerships between pharmacists, child welfare agencies, media organizations, and various community groups, often through the creation of methamphetamine taskforces. These collaborations had developed to increase communication, improve knowledge about methamphetamine effects in the community, and elicit cooperation between agencies. Law enforcement personnel also worked with county and local officials to develop education campaigns for schools, retailers, and pharmacists. In addition, they developed partnerships with social service agencies to assist children found at STL sites. Much of this work also involved education of the media as well as educational sessions about the dangers of methamphetamine with local business, schools, and any other groups who cared to listen. As noted earlier, a number of key informants worried that funds for such collaboratives either were, or would soon be cut due to reductions in STL seizures and resulting perceptions on the part of lawmakers that the problem was eliminated and therefore deserved funding cuts. More recently, federal funds for STL clean-up efforts were eliminated, further challenging the viability of such collaborations.

5. Work with neighboring states to adopt tighter restrictions on PSE products to eliminate smurfing. Key informants in all states described smurfing
behaviors both within their districts and across state lines. This sometimes created tense relationships between state officials since methamphetamine cooks living near the border of one state often obtained and sometimes cooked their meth in neighboring states, resulting in an influx of meth labs in those states. Lawmakers and legislators were in favor of working with legislators and law enforcement personnel in neighboring states in order to strengthen their PSE laws and develop better cross-border monitoring standards. In a recent attempt to standardize all states under a single methamphetamine precursor law, U.S. Senator Ron Weyden (D – OR) unsuccessfully attempted to introduce federal legislation into the U.S. Senate requiring a physician prescription for PSE in all states (Weyden, 2010).

6. Develop more treatment options to help addicts overcome addiction. Acknowledging that it was impossible to incarcerate their way out of the methamphetamine problem, both law enforcement personnel and legislators agreed that treatment and education were the primary avenues of reducing continuing drug problems (Rawson, Anglin, & Ling, 2002). Diversion to drug treatment has shown strong evidence of success in helping drug-addicted individuals receive needed treatment without long prison sentences and lengthy separations from family (VanderWaal, Taxman, & Gurka, 2008; Gottfredson, Najaka, & Kearley, 2003). There appeared to be active drug courts in several states which legislators and law enforcement personnel saw as a viable alternative to incarceration that provided drug treatment and monitoring with lower costs and more support, combined with strong sanctions and clear treatment expectations for the addict (Listwan, Shaffer, & Hartman, 2008).

7. Work with federal government officials to reduce importation of methamphetamine. States with rural borders and easy transportation routes contributed to easy access points for methamphetamine importation. Both legislators and law enforcement officials expressed concerns about these issues and recommended that the Federal government do more to monitor and reduce drug trafficking along international borders and train law enforcement personnel in how to identify and deal with suspected drug traffickers. Recent data from the National Drug Intelligence Center (NDIC, 2010) confirms a sharp increase in methamphetamine production and importation from Mexico.

DISCUSSION

There were several limitations to this study. First, the descriptions, discussions, lessons learned, and recommendations represent the perceptions of the limited number of individuals who were interviewed for this project. As such, the perceptions were not based on a representative sample
of all law enforcement officials and lawmakers in the state. A second limitation was the number of states selected for the study. Only five states were represented in this project. While this represents a reasonable range of perspectives on precursor law effectiveness based on variances in geography, PSE provisions, scheduling restrictions, and monitoring activities, it is not inclusive of all states with precursor laws. In addition, we did not include states with no state-level precursor laws. Last, data was collected at only one time, when lab numbers were decreasing, thus limiting understanding of how perceptions of the laws, and sometimes the laws themselves, changed over time. This is particularly relevant as STL lab seizures have continued to rise in recent years.

Despite the limitations of this project, we believe that we were able to select a diverse representative group of states, counties, and key informants to explore the impact of those states’ methamphetamine precursor laws. These individuals were at the forefront of policy development, implementation, and impact. Consistently, across all states and interview groups, key informants agreed that, at least initially, harms from meth STLs had been greatly reduced in their states through a combination of similar, but sometimes differently implemented, precursor laws. Reductions in toxic chemical exposure and cleanup, child abuse and neglect at lab sites, and dangerous lab environments were greatly reduced in all states. The magnitude of these reductions appeared to be directly connected to level of access to PSE products and ability to monitor and track PSE purchases in real-time, or at least in a timely manner. Key informants generally believed that the precursor chemical laws that had been instituted within their states provided the necessary structure for reducing methamphetamine lab seizures and that these laws met state and local needs and provided a tougher standard for enforcement than the federal CMEA law. Although the CMEA law provided important baseline reductions in PSE availability for meth production, the comments of key informants appear to support the importance of tougher state policies governing PSE availability, more comprehensive monitoring, and enforcement regulations.

The authors believe the results of this study will provide policy makers and researchers with a complex picture of state and local efforts to control methamphetamine precursors. Although recent data point to resurgence in STLs in almost all states, the lessons from this study will be useful to policy makers and law enforcement officials who are attempting to understand, strengthen, and perhaps replicate effective precursor law provisions in their own states. These lessons highlight the importance of state, federal, and even international policies in restricting access to products containing pseudoephedrine and ephedrine. Research also validates the continued importance of community-based collaborations as well as state-level monitoring systems that include multiple ways of identifying and tracking individuals who attempt to purchase large quantities of products containing PSE from
multiple locations. Perhaps more important, this study and related data point to the effectiveness of implementing Schedule III physician-only prescriptions of products containing PSE as a method of dramatically reducing the number of small toxic labs. Finally, findings from this study suggest that reductions in STLs do not appear to reduce methamphetamine use rates. This study points to the continued importance of drug treatment and community education as primary avenues for reducing continuing drug problems.

In conclusion, it is important to note that, to a large extent, these findings reflect what is perceived to be the initial success of methamphetamine precursor laws. However, in light of the recent increase in STLs, it is important to conduct follow-up research in these and other states to examine the longer-term effects of state, federal, and international methamphetamine precursor policies in light of the recent, rapidly growing STL seizures across the United States. Continued policy inaction will result in continuing child abuse and neglect, drug addiction, and safety concerns that could be more effectively addressed through the policy recommendations in this article.

REFERENCES


KEY WORDS AND GLOSSARY

Methamphetamine: Potent and addictive synthetic stimulant drug that affects the central nervous system, generally increasing alertness, concentration, energy, and in high doses, may induce euphoria.

Methamphetamine precursor laws: Laws designed to limit access to precursor chemicals and enhance penalties for buyers and sellers of these precursors.

One pot method: A cooking process where meth cooks can make meth in a single container using PSE and other precursor chemicals. The pot is generally flipped upside-down to cause the chemical reaction needed to turn several toxic ingredients into methamphetamine.

Precursor chemicals: Primarily pseudoephedrine (PSE) and ephedrine, ingredients found in many behind-the-counter cold medicines that can be purchased in local drug stores and pharmacies. A required ingredient for the manufacture of methamphetamine.
Schedule III controlled substance: Federal or state drug regulations that require a physician prescription for distribution of a drug or other substance due to high potential for abuse or addiction. Oregon and Mississippi legislatures have both declared PSE to be distributed only through physician prescription.

Schedule V controlled substance: Federal or state drug regulations that require drugs in this class to only be distributed for medical purposes under the supervision of a pharmacist. Most states with methamphetamine precursor laws limit the purchase of products containing PSE by requiring photo identification, logbook tracking, and product placement behind the pharmacy counter.

Small toxic labs (STLs): Laboratories that produce one pound or less of methamphetamine per cooking cycle under the supervision of a ‘meth cook’, who is the primary producer of the small batches of methamphetamine.

Smurfer: A person who goes from store to store acquiring cold pills containing PSE for a meth cook, usually in exchange for money or methamphetamine.