Prescription of Pseudoephedrine: A supply side policy intervention to decrease domestic methamphetamine lab incidents

Methamphetamine use has been on the rise in the United States since the 1970s. Methamphetamine is a powerful central nervous system stimulant, highly addictive, and associated with negative health outcomes such as heart attack, stroke, and drug induced psychosis. Methamphetamine is also associated with environmental hazards from the labs where it is produced. Methamphetamine is manufactured using commonly available chemicals and over the counter cold and sinus medications. International consensus on response supports the use of both supply and demand reduction strategies.

Since 1989 the U.S. Government has taken action to regulate methamphetamine precursor chemicals ephedrine and pseudoephedrine (PSE). More recently Canada and Mexico have followed suit. The literature evaluating the impact of precursor regulation presents a complicated picture. Regulation of bulk powder and single ingredient pills significantly reduced hospital admissions (Cunningham, 2003), and meth-related arrests (Cunningham, 2005). These effects were of limited duration, lasting between 6 months and 2 years. However, retail level regulation of combination pills was found to have no effect on these indicators. In a study looking at the impact of U.S. regulation on price and purity of methamphetamine in the U.S. bulk precursors caused a drop in purity and a small increase in price (Cunningham, 2009).

In contrast, Canadian precursor regulation had the opposite effect on the U.S. Methamphetamine market. Purity increased and price went down (Cunningham, 2009). A further study looking at the Canadian regulations and their impact on hospitalizations and found once again that hospital admissions rose after the Canadian regulations. Patterns of drug production and use in the United States, Canada and Mexico represent a highly integrated system (Maxwell, 2009). The disappearance of Canadian precursors opened the door to high quality Mexican methamphetamine, which flooded the US market (Cunningham, personal communication, 2011). A similar study evaluating the impact of federal precursor laws and California laws in 2000-01 found that regulation resulted in a decline in domestic production, but significant increases in purity and drop in price. The study also documented an increase in methamphetamine use indicators (Nonnemaker, 2010).

This offers an explanation of the connection between regulation and decreases in drug related harms. Regulation that causes a decrease in supply of large volume precursors, affects large scale manufacturers, resulting in a price spike at the wholesale level. At every step in the supply chain this price increase is diluted as the pure methamphetamine is “cut”. The result when it reaches the street level is a small increase in price, and a significant decrease in purity (Fries, 2008). This decrease in purity can explain the decrease in harms associated with methamphetamine use (McKetin, 2009). Furthermore this suggests that the impact of regulation on health outcomes can be situational based on what the next most cost effective source of drug precursors is available regionally or internationally. According to Cunningham, “The impact of regulation on purity is a complex issue. Often it depends where it is coming from [...] and regulations in the source country (Cunningham, personal communication, 2011).”

In 2005 the Oregon Legislature passed HB 2485, which reclassified ephedrine, pseudoephedrine and phenylpropanolamine as schedule III controlled substances, requiring a prescription, and making unlawful possession a misdemeanor. In 2006 U.S. regulation placed pseudoephedrine behind the counter, and requires pharmacists to maintain transaction logs documenting all purchases. Pharmacists are allowed to sell 3.6 g of pseudoephedrine per person per day (ONDCP, 2008). Federal regulation of
pseudoephedrine in 2006 resulted in a significant decline in meth lab incidents nationally. Following the ban of pseudoephedrine by the Mexican government in 2008, meth lab incidents resurged in 2009 across the country while Oregon's incidents continue to decline.

In 2005 Oregon had 467 meth lab incidents in the state. In 2009 there were only 12. This was consistent with a national trend until 2009. Between 2009 and 2011 lab incidents have climbed nationally, while Oregon's numbers have continued to decline (National Seizure System, 2010; Salter, 2012). According to the Office of National Drug Control Policy there has been a decrease in overall methamphetamine related arrests in Oregon attributable to the decrease in methamphetamine manufacture arrests due to the decrease in domestic labs in Oregon (ONDCP, 2008). Lincoln County District Attorney Rob Bovett credits a combination of the State law and Mexican precursor regulations with the decline in methamphetamine indicators, but attributes Oregon's continuing decline in meth labs to the prescription law (McMahon 2011). This hypothesis does seem consistent with the research.

DOJ maps give a good picture of the change nationally in meth lab incidents over the last five years:


Clandestine meth labs present a significant environmental hazard to both residents of the labs and the surrounding community. Methamphetamine production generates toxic fumes that saturate the environment. Meth labs require remediation and removal of carpet and even plaster from the walls to make a building safe for human habitation. Meth production also generates significant amounts of toxic waste on the order of 5-6 lbs per pound of meth produced. Illegal dumping of waste into sewers and or outdoors results in contamination of the land and possible risk of water table contamination. Waste products include explosive, flammable, corrosive and toxic substances. Human exposure to these substances can result in acute and chronic disease risk. Exposure of children living in homes where meth is being produced is a significant issue. Clean up of clandestine meth lab sites is costly for local, state and federal government. Since it's inception in 1991 the DEAs cleanup program has remediated 46,000 clandestine drug labs, 98% of which produced methamphetamine (Drug Enforcement Agency, 2005).


Availability of small amounts of pseudoephedrine has led to the development of the shake and bake method of meth manufacture in which chemicals are mixed, agitated and vented in a small container like a 2 liter bottle. The relative ease of this method has resulted in more inexperienced people cooking meth. This has led to dramatic rise in incidents as well as burn injuries and is resulting in significant health care costs. Meth related burn victims present with severe injuries and complex exposures.
Hospital treatment for these cases is of longer duration and more expensive than other burn cases, and is placing a significant strain on hospitals who are providing uncompensated care.


Huffington post article on financial burden on burn centers
http://www.huffingtonpost.com/2012/01/23/methamphetamine-burns_n_1222925.html

A Bill was been introduced by Ron Wyden in the US Congress, and was defeated. Read the bill and watch the testimony below:
also see the press packet:

Video of the hearing on pseudoephedrine before the Senate Caucus on International Narcotics Control. This is 2 hours long, but the testimony is illuminating:
http://drugcaucus.senate.gov/hearingindex.html

Since the defeat of the federal bill a number of states have considered legislation making pseudoephedrine prescription only. Only one other state, Missouri, has successfully passed a law. Opposition groups have spared no expense to defeat the legislation.

Oregon Alliance for Drug Endangered Children- There is an enormous amount of information on this web site. The news stories are largely redundant, but the Reports and position papers section provides a good idea of who the proponents of this policy are. Largely a coalition of law enforcement.
http://www.oregondec.org/pse.htm

Organized opposition to pseudoephedrine prescription laws seems to be largely from the pharmaceutical companies. The Consumer Healthcare Products Association is an industry group including Bayer, GlaxoSmithKline and Johnson & Johnson. In states across the US they continue to spend enormous sums of money to oppose prescription laws.
www.stopmethnotmeds.com

Questions:
1. Are supply side interventions an effective/useful approach to drugs? Under what circumstances?
2. Given the unpredictable nature of supply side interventions of this type, is it wise to proceed if we do not know what will come next? What are the ethical implications?
3. What are some ways in which the opposition of the pharmaceutical industry might be handled?
4. What are some strategies for pushing through a drug policy in the US that does not reduce drug use?
5. Is another attempt at federal legislation feasible given emerging evidence of Oregon program's success?
6. How might support for this policy be expanded?
References


Cunningham, J.K. (2011, March 10). Personal Communication. Fulbright-Garcia Robles Scholar and social epidemiologist, Department of Family and Community Medicine, University of Arizona College of Medicine.


Nonnemaker, J., Engelen, M. and Shive, D., Are methamphetamine precursor control laws effective tools to fight the methamphetamine epidemic?. Health Economics, n/a. doi: 10.1002/hec.1610