The War on Drugs:
Methamphetamine, Public Health and Crime

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Government Has Three Strategies to Curb Illegal Drug Use

- Prevention: Education and community action
  - Discourage people from starting to use drugs
  - $2B budget in 2005
  - Demand side intervention
- Treatment: Programs for drug users
  - Get people who use drugs to stop
  - $4B budget in 2005
  - Demand side intervention
- Enforcement: Reduce Availability
  - $6B budget in 2005
  - Supply side intervention
  - Unlike treatment and prevention experimental evaluation is not feasible

Goals of this Study

- Examine the impact of an extremely successful DEA enforcement effort in the methamphetamine precursor market on:
  - Price and purity of methamphetamine
  - Hospitalizations and drug treatment admissions for methamphetamine
  - Property crime, violent crime and drug crime

Methamphetamine Abuse Is a Growing Problem

- In the 1980s methamphetamine was used primarily by adult white males in western states
  - Increasing use among minorities, women and high school students
  - 24 states reported increases of 100% or more in methamphetamine treatment admissions from 1993 to 1999 (SAMHSA 2001)
  - Nearly one-third of state and local enforcement agencies surveyed in 2003 rated methamphetamine as one of the greatest drug threats in their area (NDIC 2003)

Evidence of the Effect of Reducing Methamphetamine Supply

- Cunningham and Liu 2003 find that regulation of precursors reduces methamphetamine hospitalizations.
- Abt Associates (2000) find a 1% price increase reduces consumption by 1.48%.
- Numerous studies of price elasticity of cocaine and heroin in U.S. DiNardo 1993, Yuan and Caulkins 1998, Caulkins 2000).
- These studies have some limitations
  - They are identified of changes in price with unknown sources.
  - They use data aggregated to the year level potentially masking local or temporary changes.
  - They do not examine the direct effect of enforcement on outcomes of interest such as crime and adverse health events.

Methamphetamine Production Is Dependent on Precursor Availability

- Methamphetamine is “cooked” in illegal drug labs using either ephedrine or pseudoephedrine as a precursor.
- Ephedrine or pseudoephedrine have many legal uses.
  - Over the counter medicine such as Sudafed and Tylenol Cold contain them
- The DEA works to keep these precursors from getting diverted to illegal uses.

Significant Precursor Legislation (1989-2000)

- October 1989: Chemical Diversion and Trafficking Act
  - Regulated bulk ephedrine and pseudoephedrine
- August 1995: Domestic Chemical Diversion Control Act (DCDCA)
  - Removes the record keeping and reporting exemption for single entity ephedrine products.
- October 1996: Methamphetamine Control Act
  - Regulates access to over the counter medicines containing ephedrine.
- October 1997: Methamphetamine Control Act
  - Regulates products containing pseudoephedrine or phenylpropanolamine
- July 2000: The Methamphetamine Anti-Proliferation Act
  - Establishes thresholds for pseudoephedrine drug products.

Significant Precursor Interventions Resulted from the DCDCA

- Two large interventions occurred in May 1995
  - Clifton Pharmaceuticals: 25 metric tons of precursors
  - Xpressive Looks International: 500 cases and distribution network of 830 million tablets (over 18 months)
- Scale of two interventions is enormous
  - Production potential was 24 metric tons of methamphetamine
- Scale dwarfs other seizure and consumption measures
  - DEA seized only 762 kilograms of methamphetamine in 1994 (DEA STRIDE)
  - ONDCP estimated total methamphetamine consumption was 34.1 metric tons in 1994

Our Analysis Relies on Detailed Data from Government Sources

- Census of DEA seizures & purchases
- Census of California hospitalizations
- Census of drug treatment admissions in California
- Survey and drug test of a non random sample of arrestees for three California cities
- Monthly reported crimes and arrests in California by Jurisdiction

Figure 1: Methamphetamine Prices and Purity in California

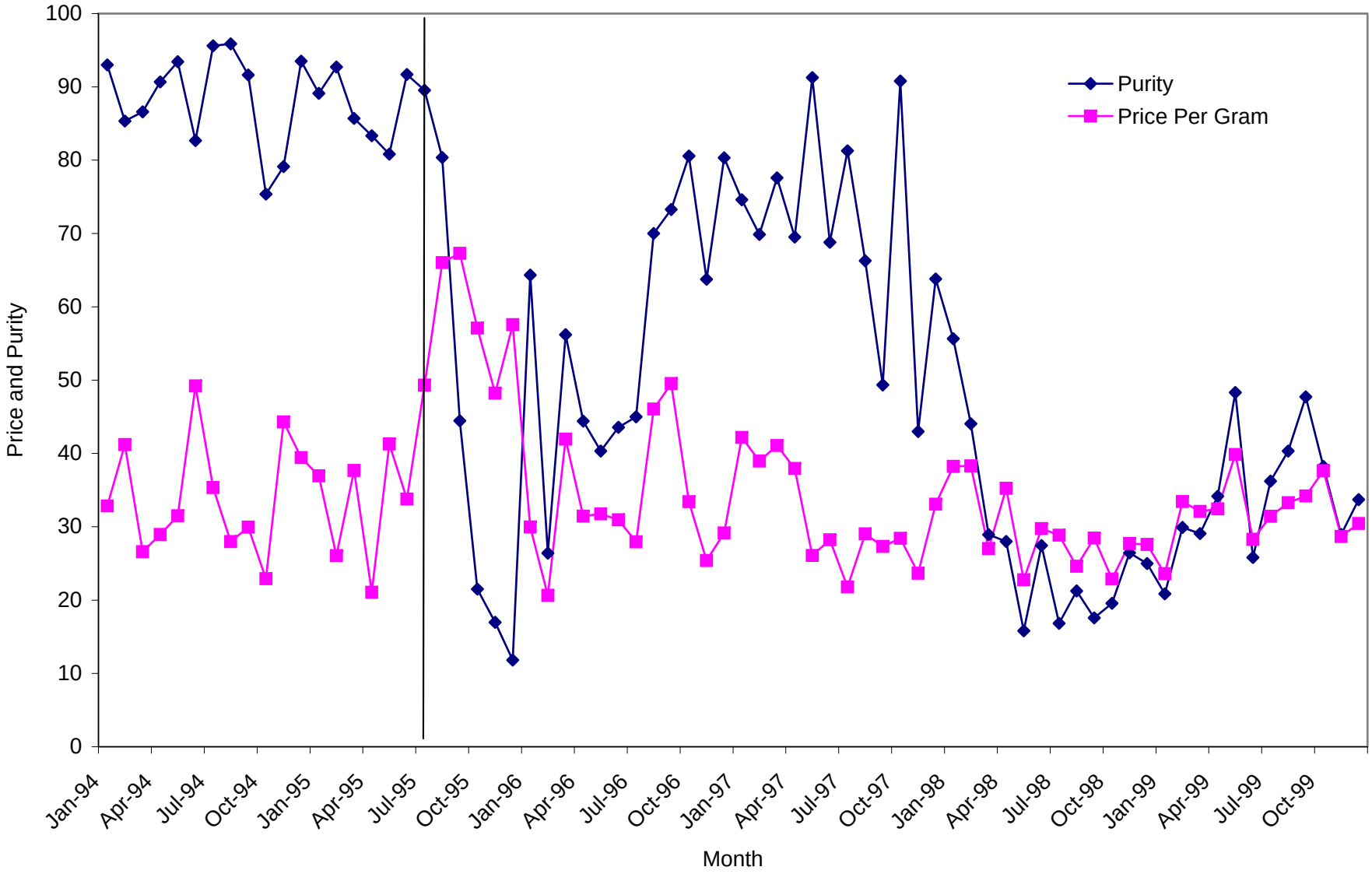


Figure 2: Methamphetamine Purity by Size of Acquisition In California

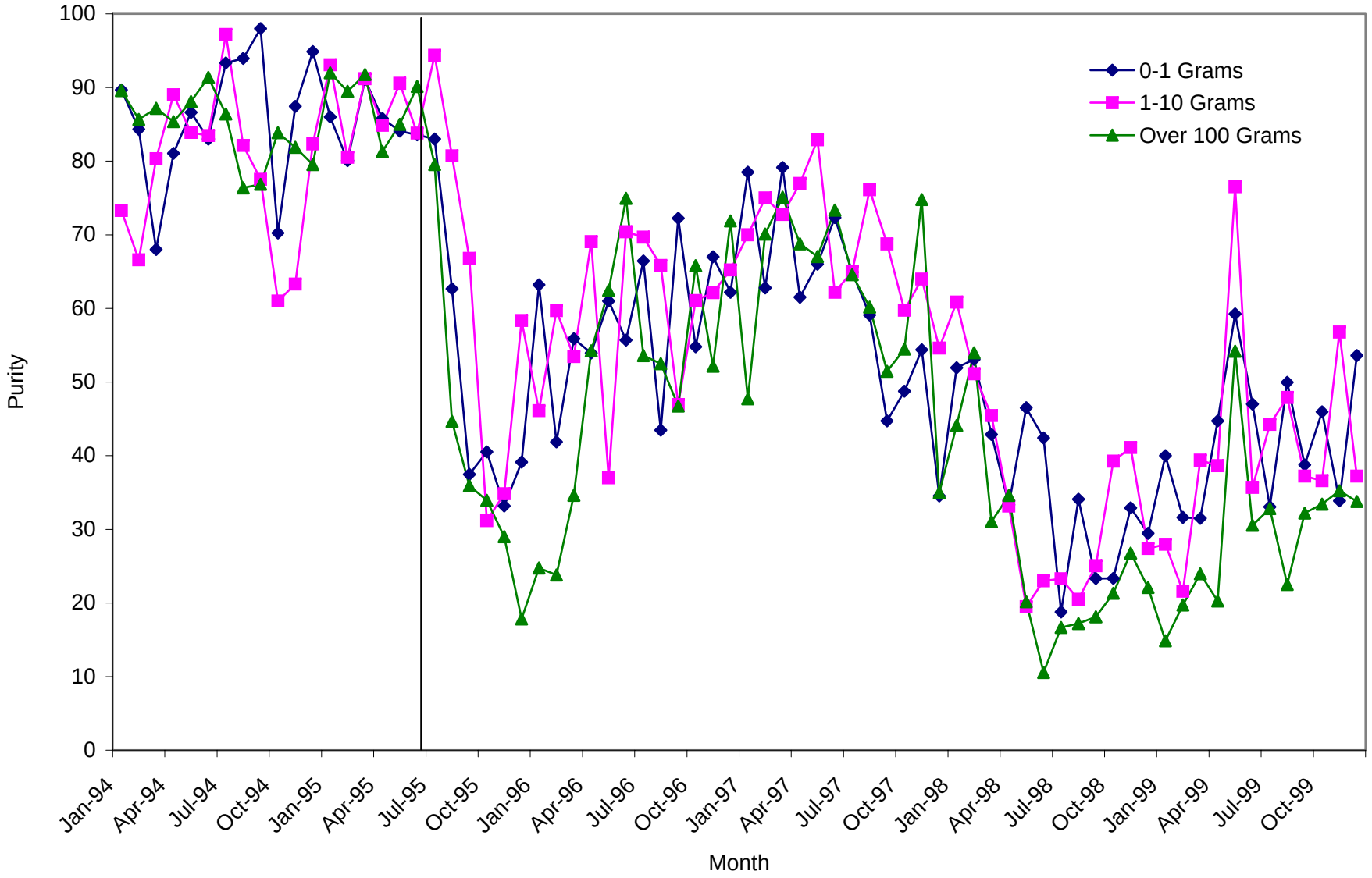


Figure 3: Methamphetamine Related Hospital and Treatment Admissions

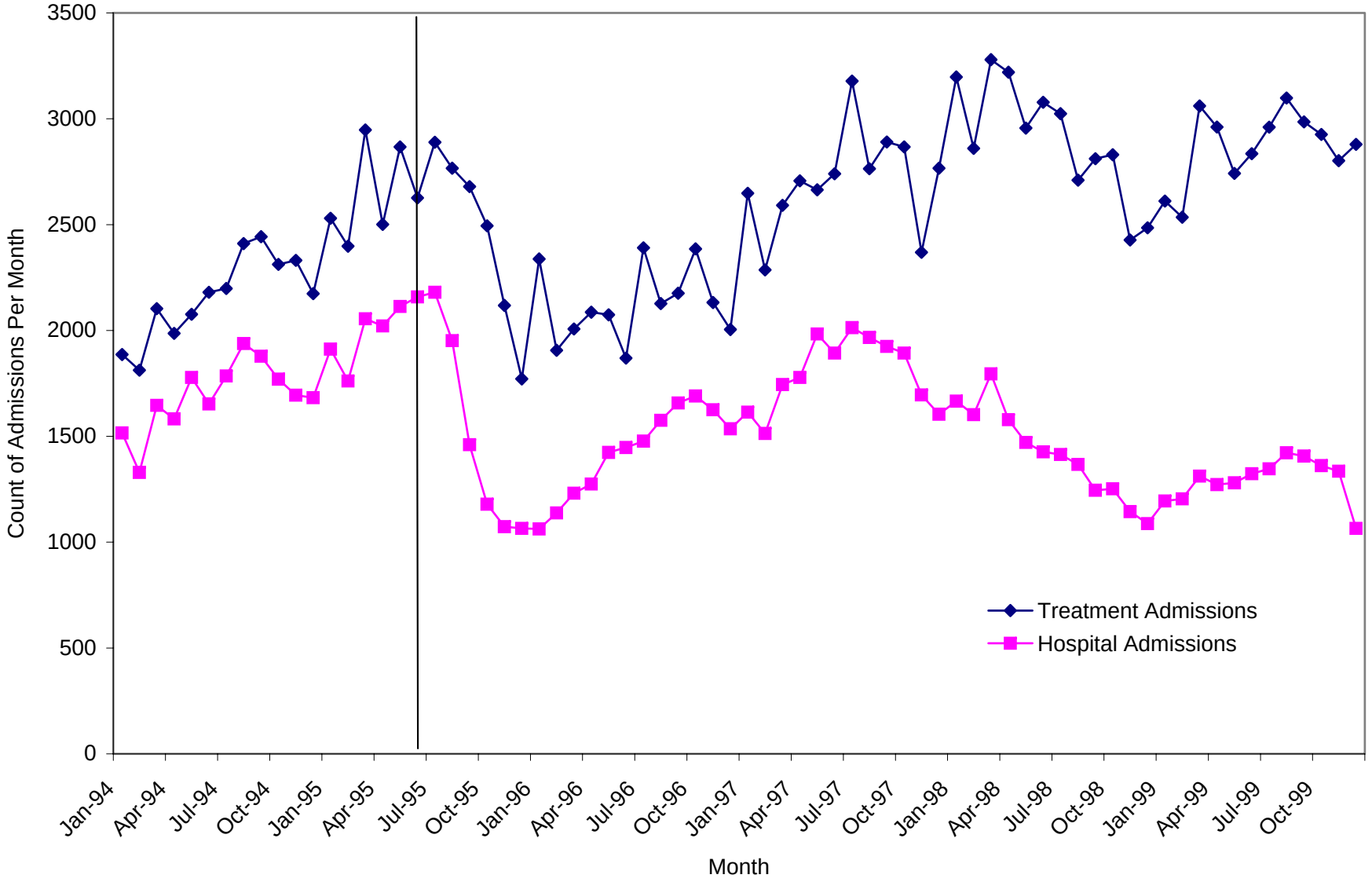


Figure 4: Treatment Center Admissions for Methamphetamine by Route of Drug Administration

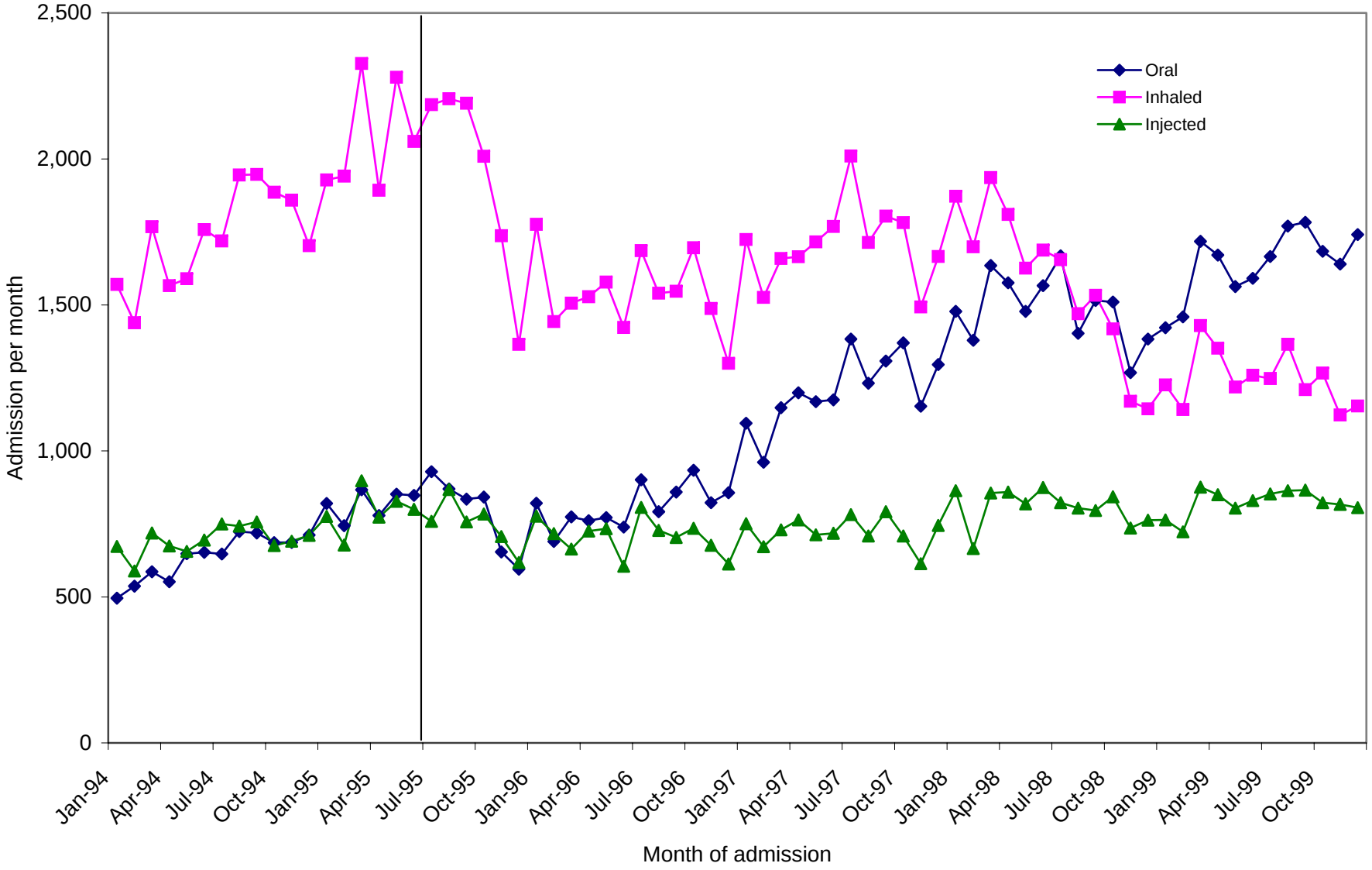


Figure 5A: Cocaine and Heroin Prices in California

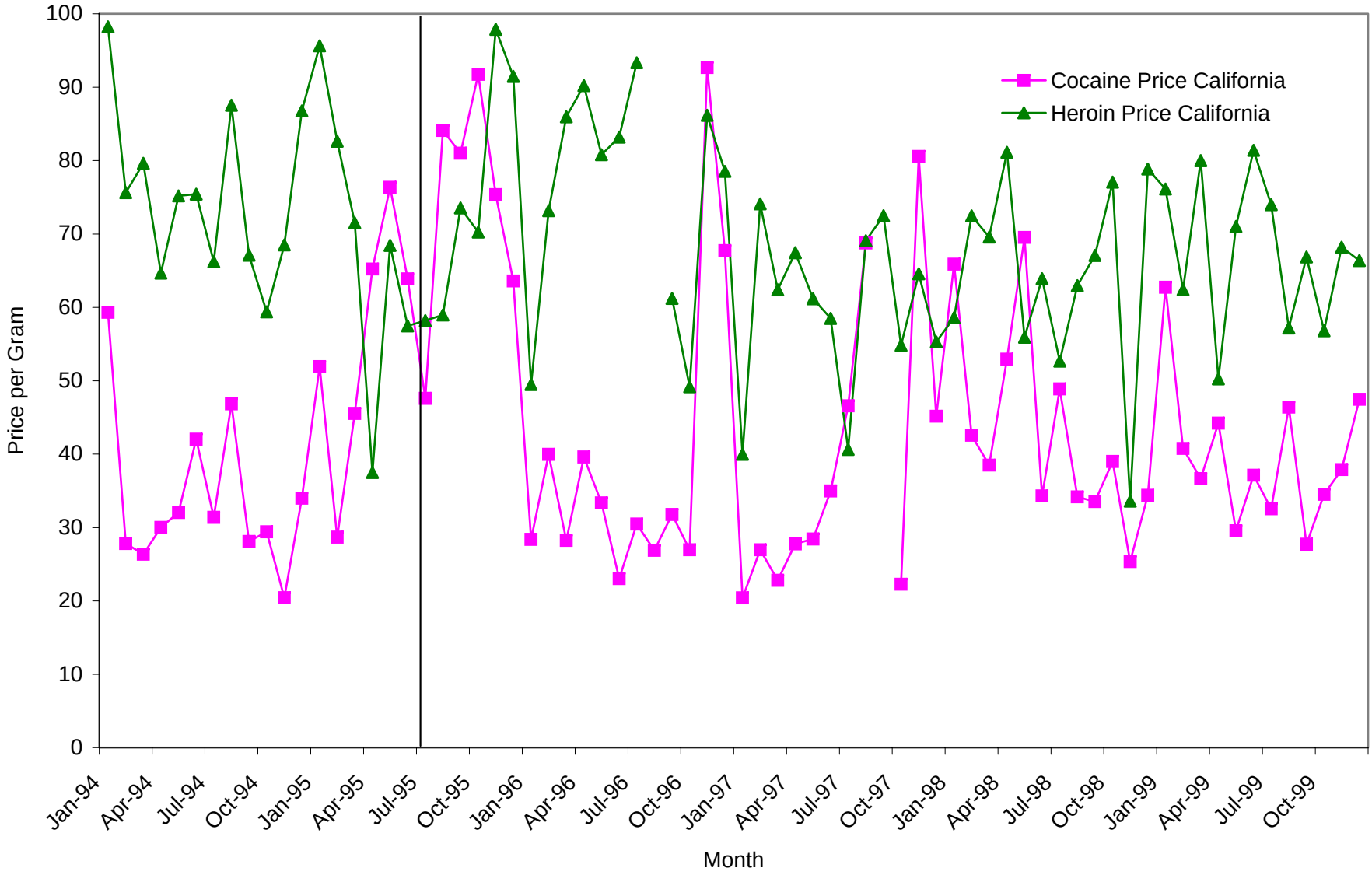


Figure 5B: Purity of Cocaine and Heroin Purchased in California

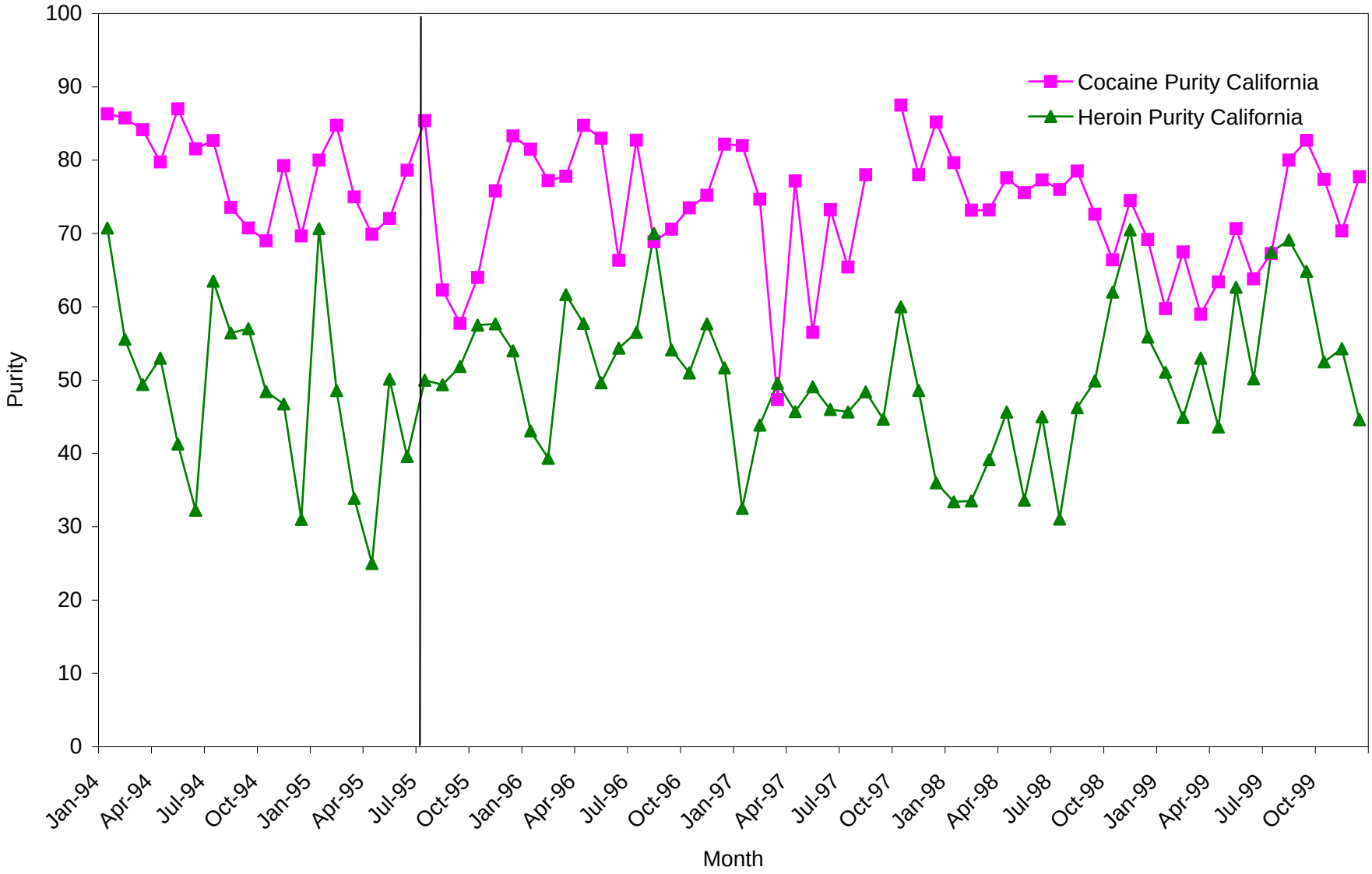


Figure 6A: Cocaine Prices in New York and Florida

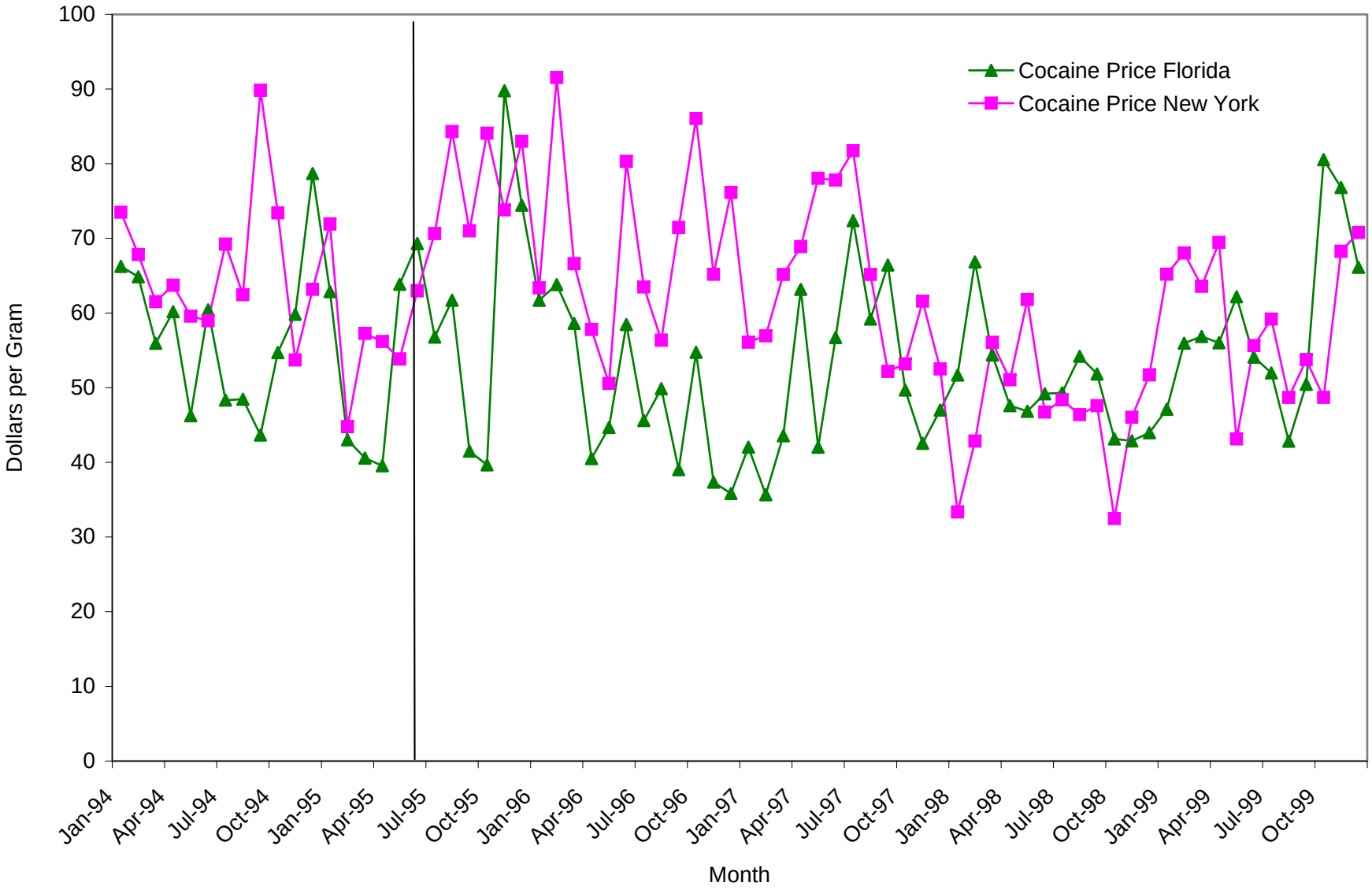


Figure 6B: Purity of Cocaine Purchased in New York and Florida

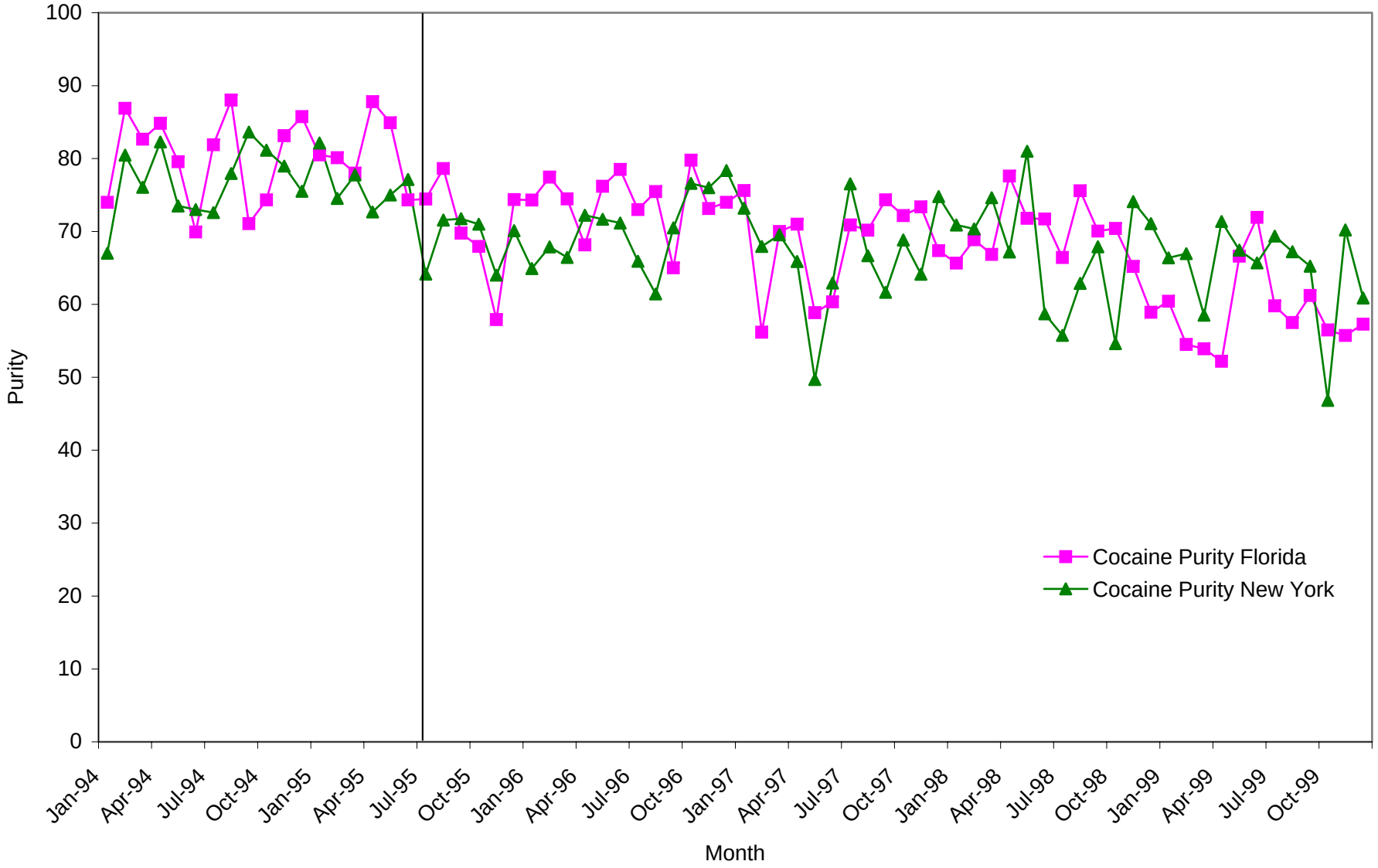
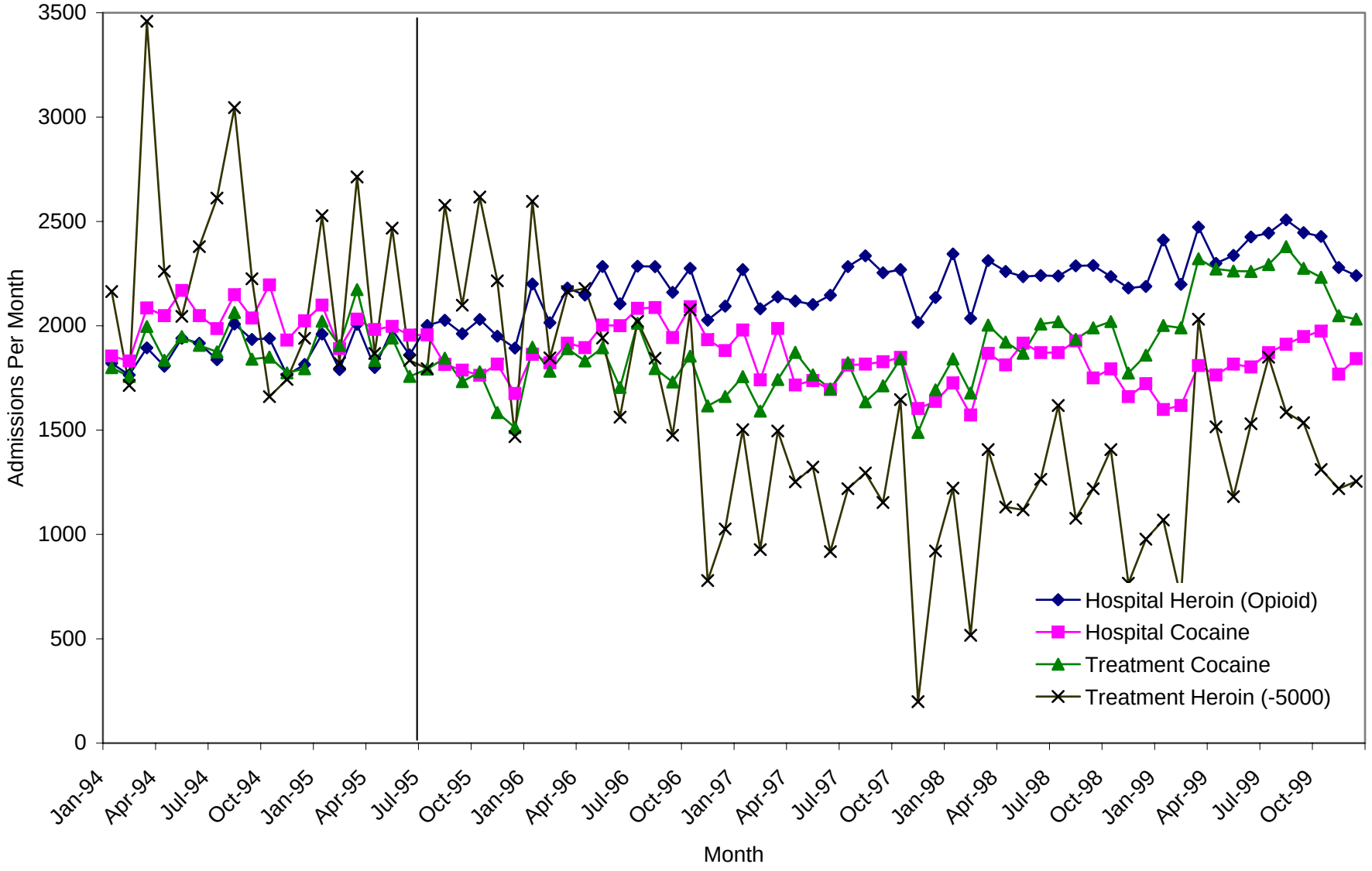


Figure 7: Hospital and Drug Treatment Admissions in California



Substitution into Other Drugs

- Some evidence of methamphetamine users switching to Cocaine
  - Increase in cocaine price and slight decline in purity
  - Decrease in cocaine hospitalizations and treatment admissions possibly due to price increase
- No evidence of a substitution into heroin

Methamphetamine and Crime

- The intervention resulted in a large increase in price and reduction in purity
- There is also a large reduction in adverse health effects from methamphetamine consumption
- We have seen limited evidence that some methamphetamine users are switching to cocaine but there is still a very large overall reduction in drug use.
- Now we turn to examining property crime, violent crime and drug arrests

Table 1: Drug Use and Source of Income by Type of Crime in San Diego, Los Angeles and San Jose 1994-1999

Drug Testing Revealed	All Arrests	Property Crime	Violent Crime	Drug Arrests
Marijuana	0.34	0.36	0.30	0.35
Cocaine	0.25	0.27	0.15	0.43
Opiates	0.06	0.07	0.03	0.09
Methamphetamine	0.16	0.14	0.11	0.29
Survey Reported Methamphetamine Use				
Last 72 Hours	0.09	0.08	0.05	0.19
Last 30 Days	0.15	0.13	0.09	0.25
Have used ever	0.31	0.27	0.23	0.42
Times in Last Month if > 0	11.1	11.4	8.7	12.8
Spent Some Money on Drugs in Last Month	0.34	0.35	0.21	0.53
At Time of Arrest				
Under Influence of Drugs or Alcohol	0.31	0.24	0.28	0.40
Need Drugs or Alcohol	0.08	0.08	0.04	0.12
Monthly Income and Spending				
Percent Reporting Legal Income	0.79	0.76	0.85	0.83
Percent Reporting Illegal Income	0.15	0.19	0.06	0.21
Legal Income	$834	$714	$1,120	$765
Illegal Income	$271	$346	$101	$426
Money Spent on Drugs	$126	$159	$42	$185
Observations	31,298	10,476	7,249	5,844

Note: This table includes only arrestees that agreed to be interviewed and drug tested. Approximately 90% of arrestees agreed to participate in the survey and of those 80% agreed to give a urine specimen.

Figure 8A: Methamphetamine Use Among Arrestees in San Diego, Los Angeles and San Jose

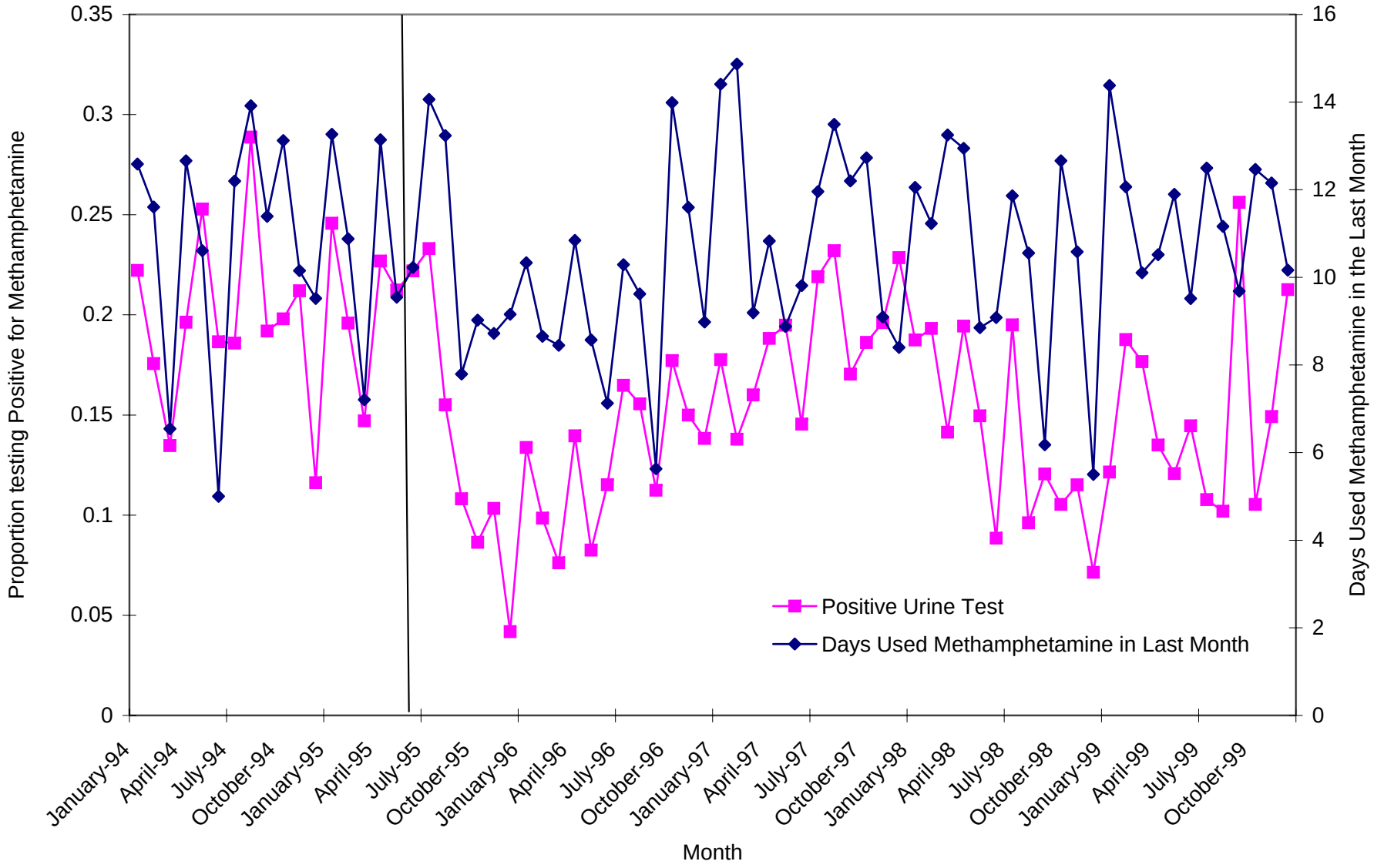
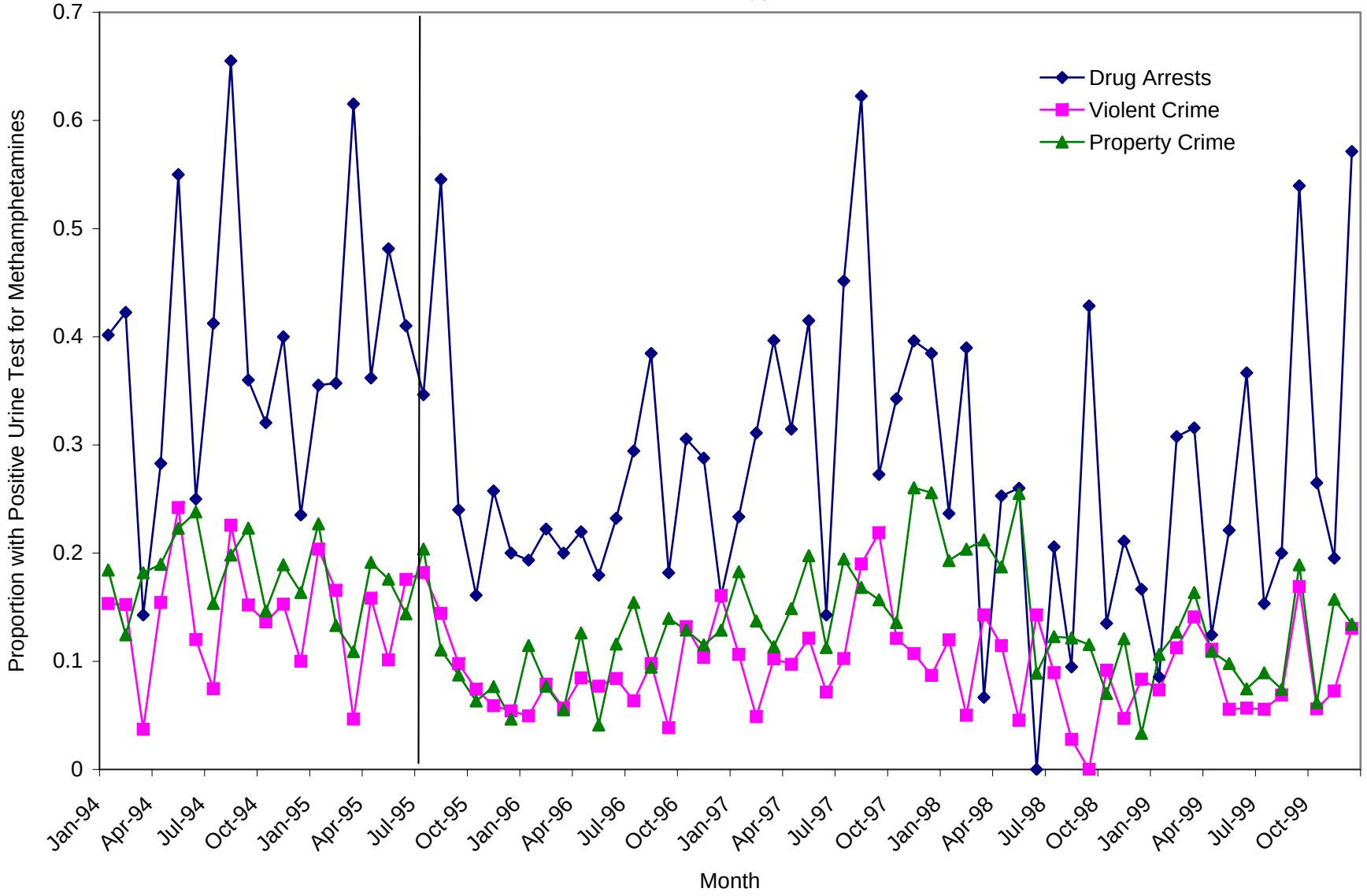


Figure 8B: Positive Methamphetamine Test Among Arrestees in San Diego, Los Angeles and San Jose by Crime Type



Methamphetamine Availability and Crime

- Drug use is common among people arrested for property crime, violent crime and drug crimes
- Proportion testing positive for methamphetamine of all three groups of arrestees drops as a result of the intervention.
- How a reduction in methamphetamine supply might impact crime rates
  - Property crime may rise or fall depending on the price elasticity of consumption
  - Violent crime due to the pharmacological effects of methamphetamine may fall.
  - Violent crime due to the enforcement of property rights may rise or fall
  - Drug crimes such as possession may fall as there are fewer transactions to conduct

Figure 9: Reported Property Crime in California

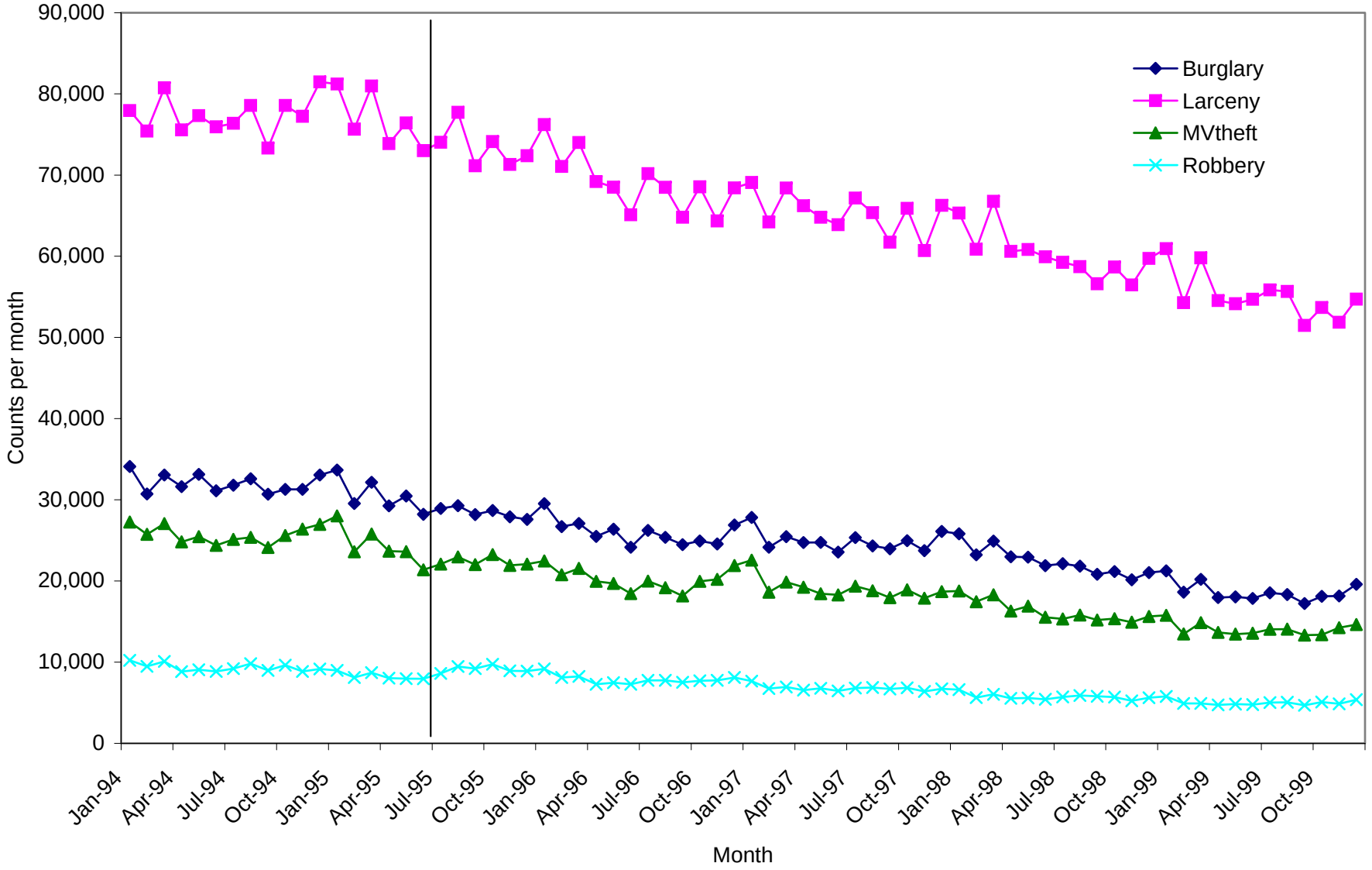


Figure 10: Reported Violent Crimes in California

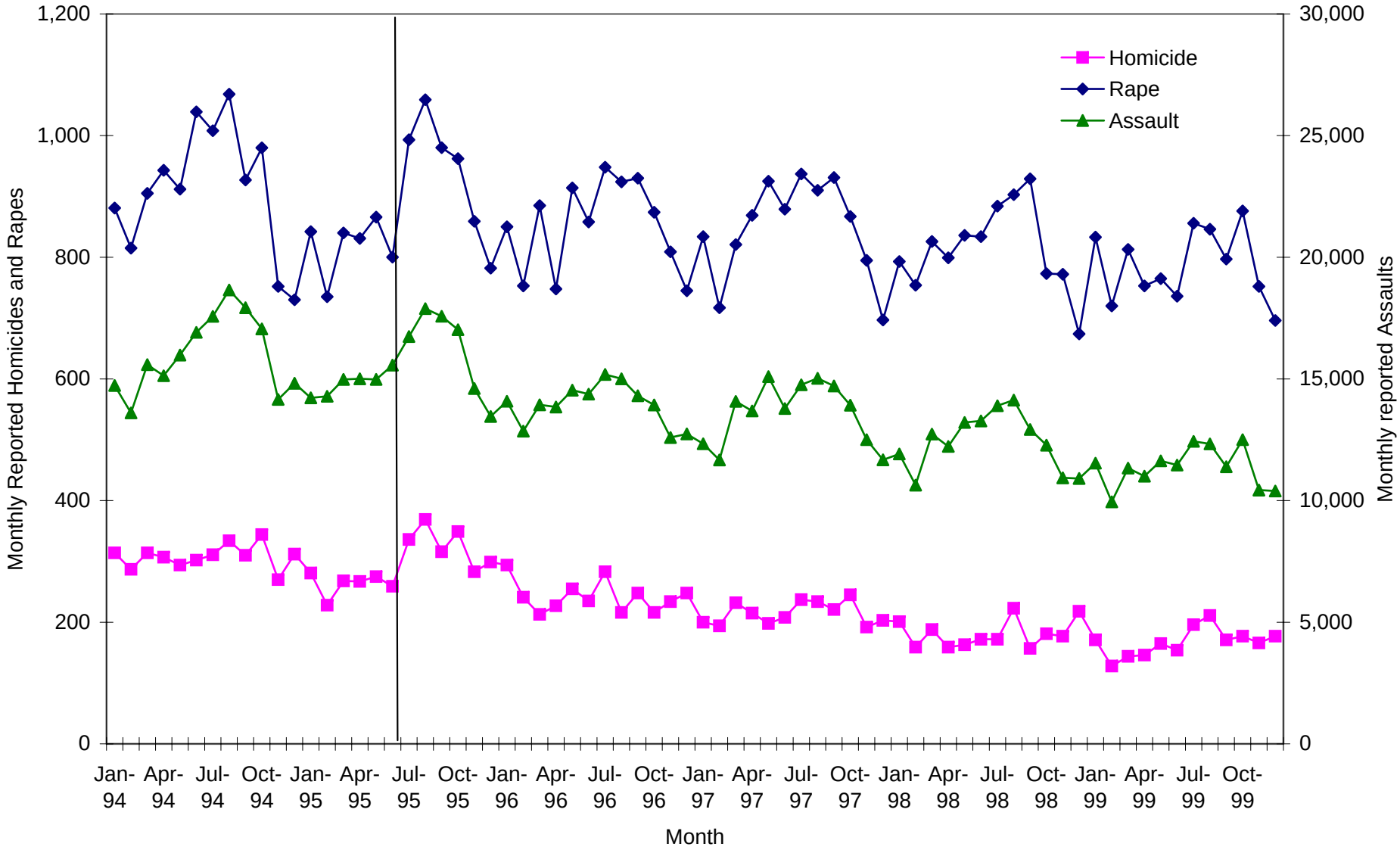


Figure 11: Arrests for Five Major Drug Categories in California

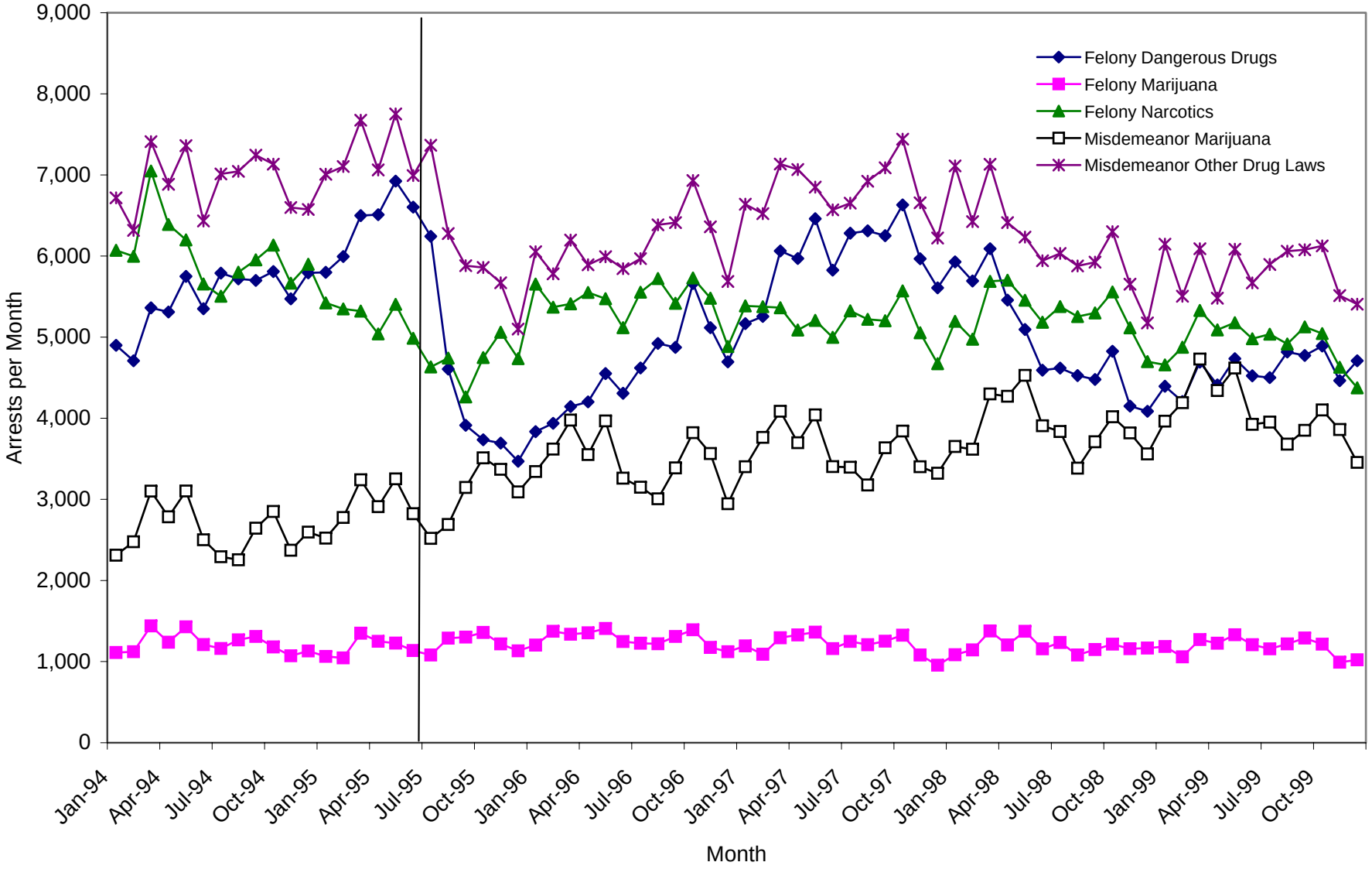


Figure 12: Amphetamine Hospitalizations Rate by Amphetamine Hospitalization Rate of County

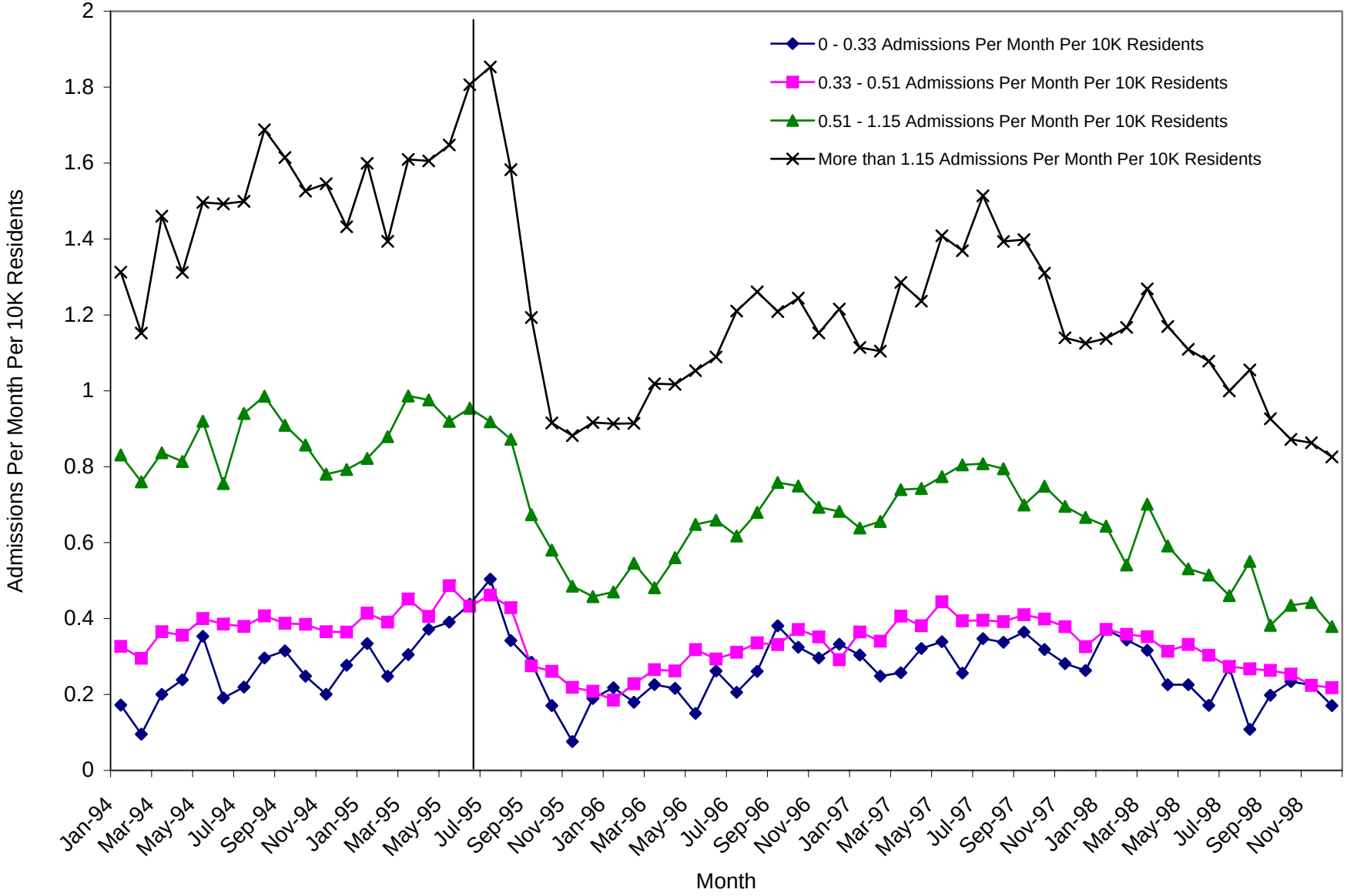


Figure 13A: Homicide Rate by Amphetamine Related Hospitalization Rate of County

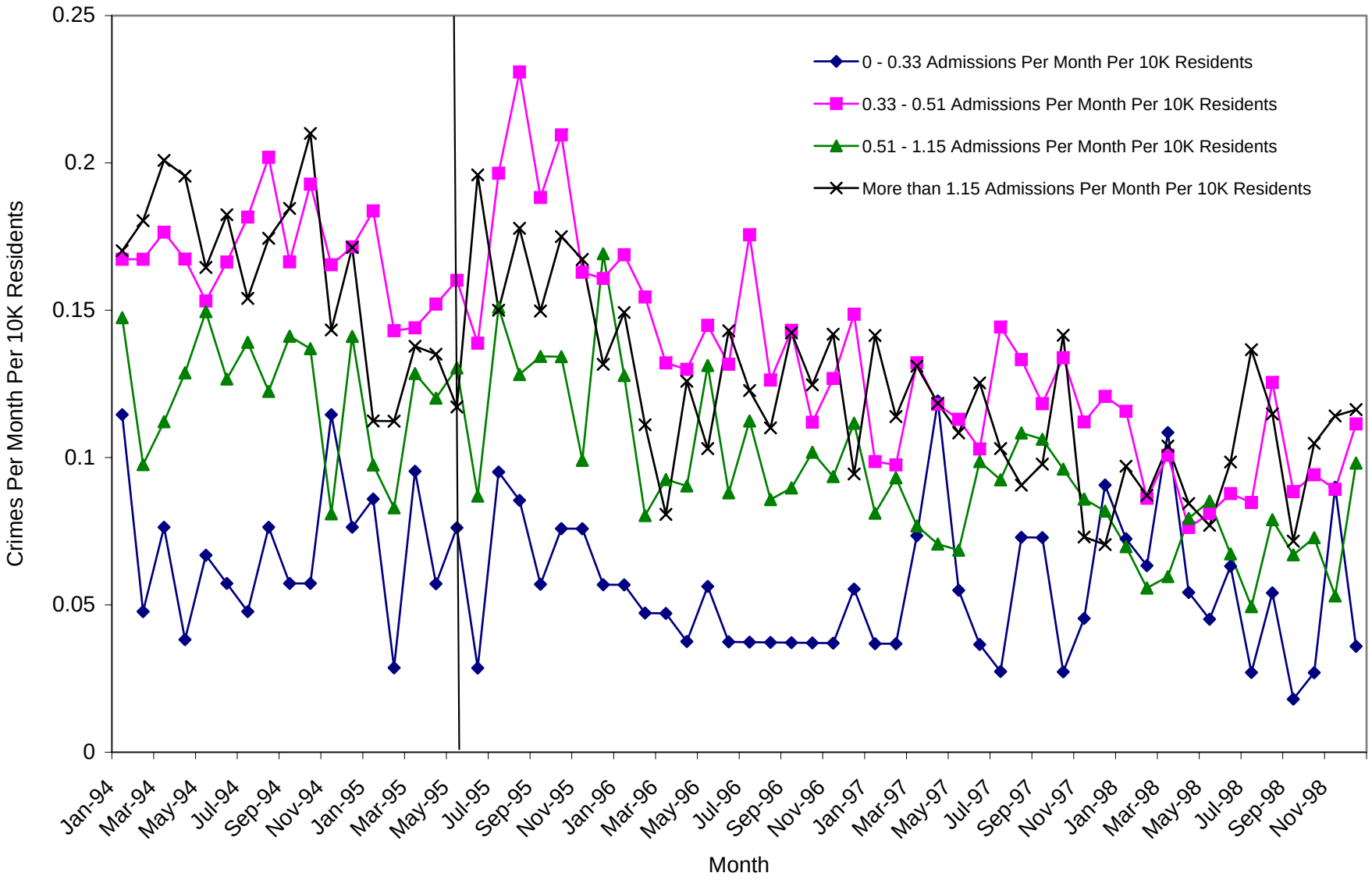


Figure 13B: Larceny Rate by Amphetamine Related Hospitalization Rate of County

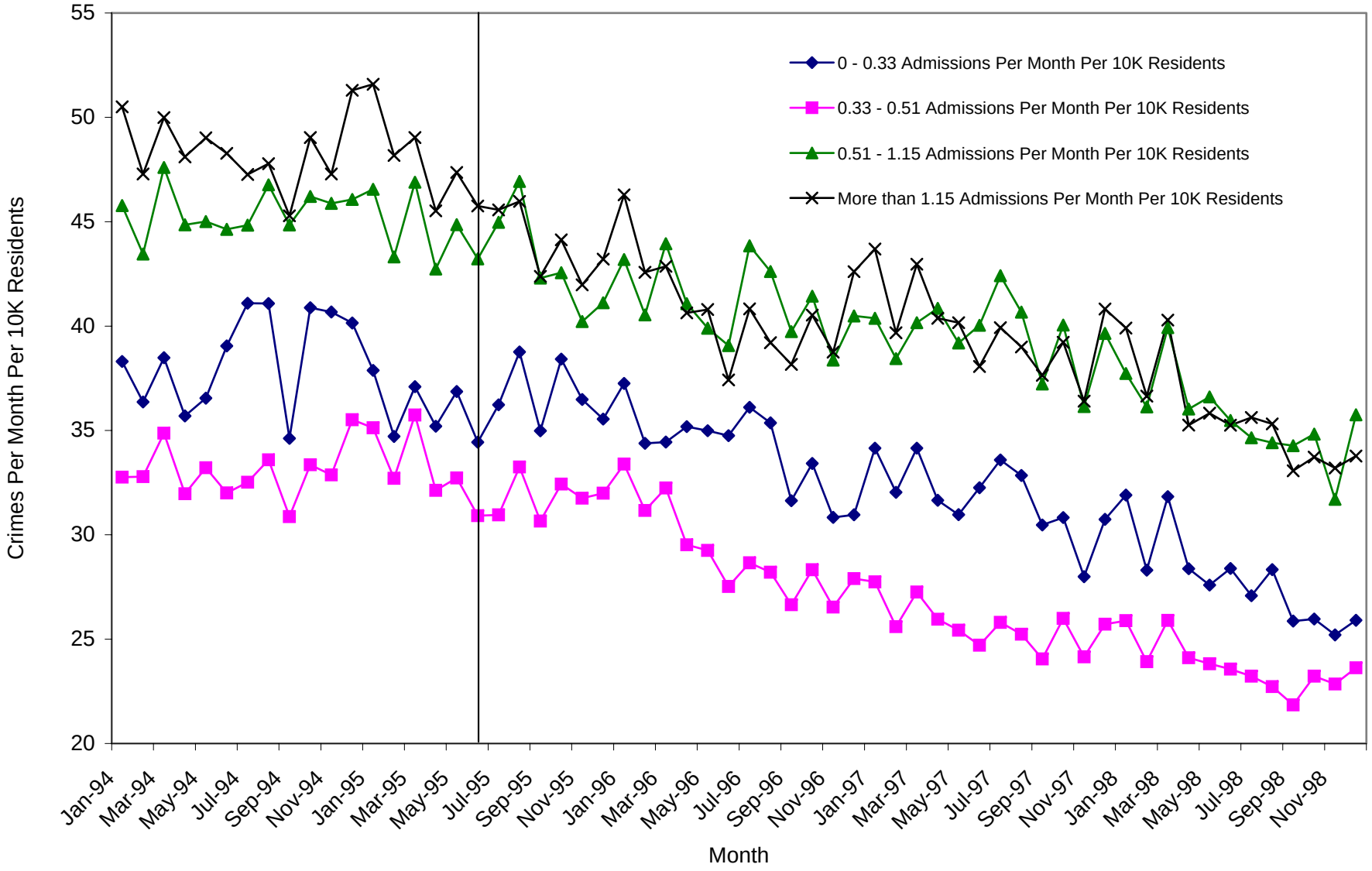
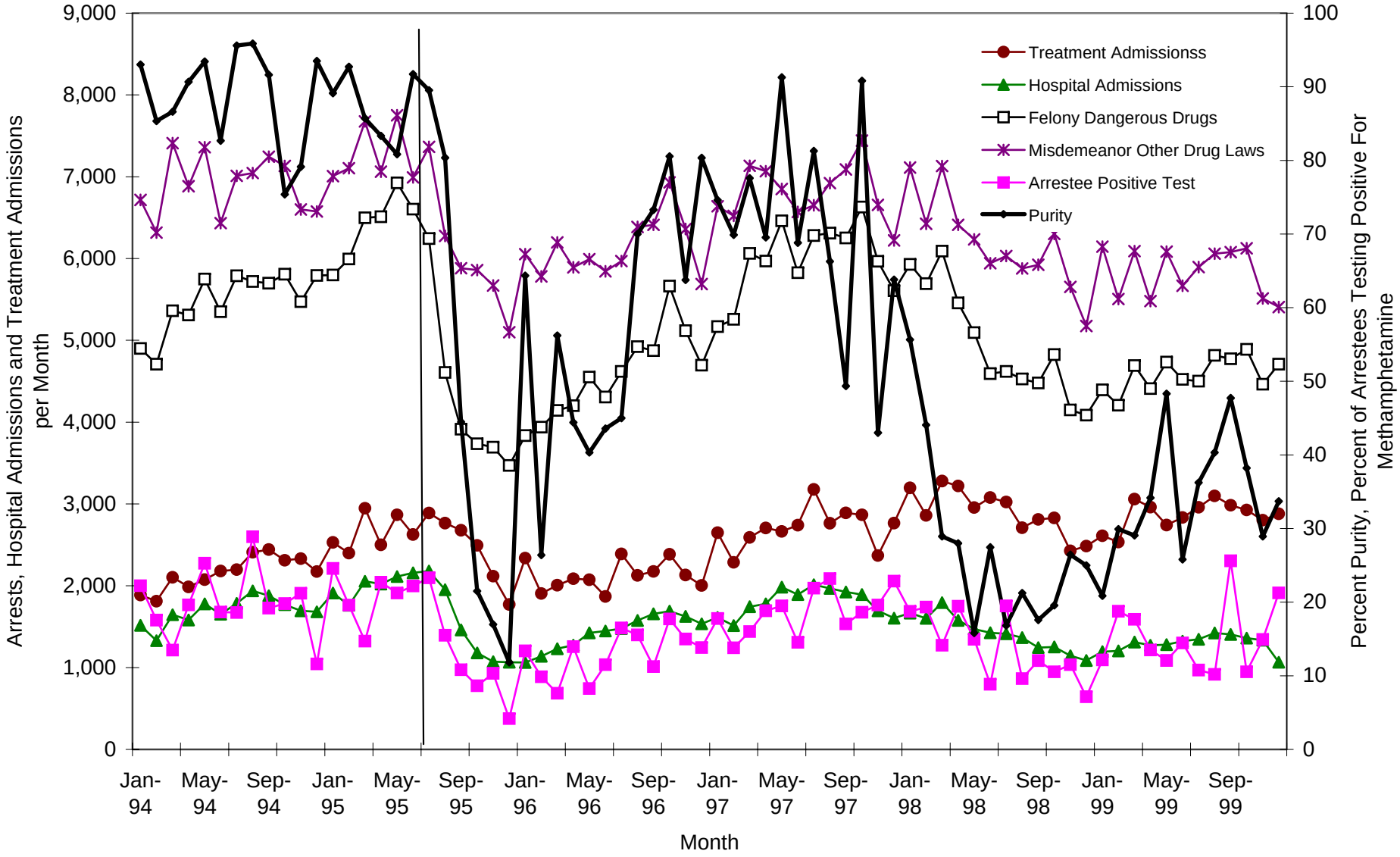


Figure 14: Purity and Health and Crime Outcomes



Main Results

- The 1995 DEA interventions had a large abrupt impact on the adverse effects of methamphetamine consumption
  - Price jumped from $35 per gram to $65 per gram
  - Purity declined from 90% to 20%
  - Hospital admissions for methamphetamine declined by 50%
  - Drug treatment admission for methamphetamine declined by 40%
  - Some methamphetamine users switched cocaine
  - Methamphetamine use declined by 60% among arrestees
  - Felony arrests for “Dangerous Drugs” declined by 50%
  - Misdemeanor arrests for “Other Drug Laws” declined by 30%
  - No discernable reduction in violent crime or property crime

Conclusions

- Supply interdictions can reduce the rates of adverse health outcomes and the number of drug arrests
- The lack of a significant change in property or violent crime rates suggests either: methamphetamine consumption does not cause violent crime or property crime or that interdiction is not an effective way of reducing the crime associated with methamphetamine use.
- Despite this enormous success on the part of DEA the supply of methamphetamine recovered fairly rapidly.