



## Research Note 7:

# The impact of AFP drug law enforcement on the availability of heroin

### Summary

The AFP in conjunction with Australian National University conducted an analysis of the impact of AFP law enforcement efforts on the supply of heroin in Australia. The results suggest that both the number and size of AFP heroin seizures influenced the availability of heroin. The study confirms the value of supply reduction strategies and when taken in conjunction with the results of other studies, supports the hypothesis that AFP drug law enforcement efforts result in benefits both to the drug user and the community as a whole.

### Background

Despite general agreement on the harms associated with heroin abuse, the value of intercepting drug importations has long been the subject of vehement debate. The decades where the supply of illicit drugs continued unabated despite the best efforts of law enforcement agencies convinced many in the community that law enforcement was at best ineffectual and at worst actually exacerbated the problem. Certainly within Australia, there was a lack of suitable data to evaluate the effectiveness of drug law enforcement. There was also a tendency to use simplistic and inappropriate statistical techniques where data was available.

Real world trends are notoriously difficult to analyse. There is a complexity to the real world that is absent in the laboratory. Until recent years, the trend in street level purity indicated a chronic state of oversupply of heroin in Australia. The recent heroin shortage provided the first opportunity in many decades to see whether supply and enforcement were in any way related. The Australian National University was commissioned to undertake the analysis.

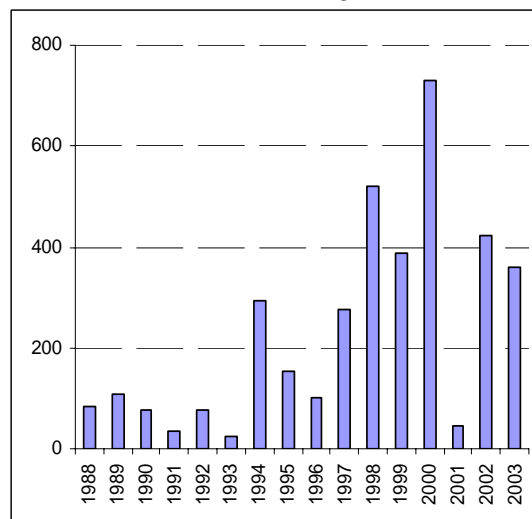
To the authors' knowledge, there has been only one study reported in the literature of the impact of law enforcement on the supply of heroin. Wood et al (2003) suggested that contrary to expectation one major seizure in Canada had no demonstrable effect on supply. Certainly, a number of journal articles have reflected on the limitations of a supply reduction strategy (Reuter, 2001; Rydell, Caulkins & Everingham, 1997; Wodak, 2003) while others have argued the potential benefits of law enforcement (e.g. Caulkins, 2002; Weatherburn & Lind 1999).

The difference between policing efforts directed primarily at users and those directed primarily at suppliers should be noted. The current study was concerned with the impact of border seizures on the supply of heroin to the community. Specifically, this report investigated whether heroin purity levels in the ACT may be predicted by national AFP seizure data.

### Methodology

There can be little doubt that AFP interception of heroin increased dramatically from the late 1990s as illustrated in Chart 1. The AFP has seized approximately 2,467 kilograms of heroin in the past six years compared to 931 kilograms in the previous six years.

Chart 1. AFP Heroin seizures (kg) 1988-2003



The original data consist of two files. The seizures file contained the date of seizure (from 1987 to 2003) and the weight of the heroin seized on each occasion. The purity file included the date of seizure in the A.C.T. (from 1999 to 2003), the weight of the heroin seized on each occasion, and the purity of heroin in selected seizures.

A primary problem in collating the two files is that the dates are irregularly spaced and do not match up. The issue was resolved by expanding both files to incorporate daily dates, resulting in a structure with blank entries for weights and purity. Weighted averages for consecutive periods of fixed duration were constructed to provide smoothed estimates of seizure weights and purity levels. The average for seizure weight simply divided the sum of the weights by the number of seizures during the period. The weighted average of purity used the weight of the seizure as the weighting variable.

### Models

Three kinds of dynamical models were constructed and tested in this investigation:

- Models of seizure data (number and weights),
- Models of heroin purity levels, and
- Predictive models linking seizure data with purity data.

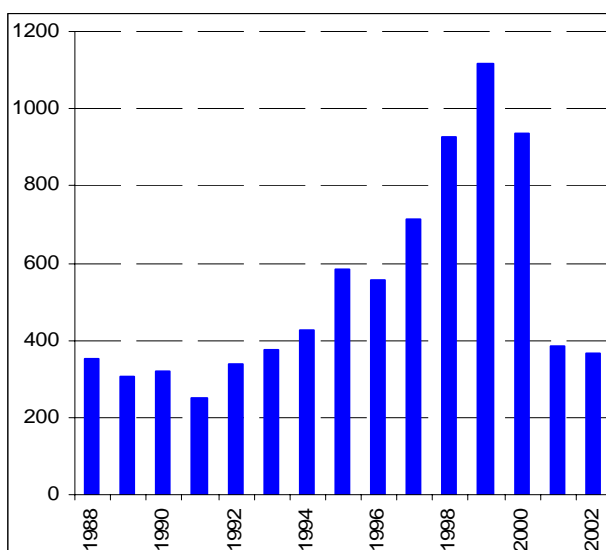
The seizure models are intended to explain the fluctuations of seizure numbers and weights from 1987 through 2003, and are oriented towards ascertaining whether the dynamics of these series changed at any time and if so, approximately when. Purity data from the ACT from 1999 through 2003 were used to indicate supply on the common assumption that a reduction in availability will result in the greater watering down of heroin, i.e. reduced purity.

### Results

There are two major conclusions to the study.

- First, the number and size of AFP heroin seizures in Australia and overseas is moderately related to the level of supply on the street. The 'moderate' result is to be expected with real world data. Other factors may have also influenced supply and we have no way of including these in our model. It should also be noted that we related national seizures to ACT supply figures. Although the ACT is no doubt indicative of national trends, there may be subtle differences across heroin markets that would also influence the strength of our results.
- Second, the model demonstrates that something important happened in early to mid 1998. Prior to that date, the impact of drug seizures on supply is not evident probably due to conditions of oversupply. From that date, the number and size of heroin seizures increases and in 1999 street level supply begins to fall. The change in the impact of AFP drug law enforcement coincides with the introduction of increased Government funding under the National Illicit Drug Strategy.

Chart 2. Heroin overdose deaths 1988-2002



Source: Australian Drug Trends 2003. Monograph No. 51. National Drug and Alcohol Research Centre, University of New South Wales

### Discussion

These results are consistent with the hypotheses that law enforcement efforts do, in fact, influence the supply of illicit drugs reaching the community and that increased funding for law enforcement will result in further decreases in supply.

As Chart 2 demonstrates, the number of heroin-related deaths has fallen greatly since 2000. This drop and other improvements – improved health of users, increased enrolments in treatment programs and reduced property crime - noted by commentators (Smithson et al, 2004; Weatherburn et al 2001) are related to the reduction in the supply of heroin to the community.

Law enforcement is one of a number of strategies designed to reduce the harm associated with the use of illicit drugs in our society. It has an important place in any evidenced-based approach to the issue and can now claim scientific evidence on par with that accorded many medical treatments.

To date, support for the supply reduction approach has been based mainly on expert opinion rather than empirical evidence. This, to the best of the authors' knowledge, is the first study of time-series data reported in the literature. The addition of further empirical research from other law enforcement agencies would be most welcome.

### References

- Caulkins J P (2002) Law enforcement's role in a harm reduction regime. *Crime and Justice Bulletin*, 64, NSW Bureau of Crime Statistics and Research.
- Reuter P (2001) The limits of supply-side drug control, *Drug Policy Research Centre*, Rand.
- Rydell C P, Caulkins J P & Everingham S S (1997) Enforcement or treatment? Modeling the relative efficacy of alternatives for controlling cocaine. *Drug Policy Research Centre*, Rand.
- Smithson M, McFadden M, Mwesigye S and Casey A (2004) The impact of illicit drug supply reduction on health and social outcomes: the heroin shortage in the Australian Capital Territory *Addiction*, 98, 340-348.
- Weatherburn D, Jones C, Freeman K & Makkai T (2001) The Australian heroin drought and its implications for drug policy. *Crime and Justice Bulletin*, 59, NSW Bureau of Crime Statistics and Research.
- Weatherburn D & Lind B (1999) Heroin harm minimisation: Do we really have to choose between law enforcement and treatment? *Crime and Justice Bulletin*, 46, NSW Bureau of Crime Statistics and Research.
- Wodak A (2003). The international drug treaties: 'paper tigers' or dangerous behemoths? *International Journal of Drug Policy*, 221-223.
- Wood E, Tyndall M W, Spittal P M, Li K, Anis A H, Hogg R S, Montaner J S G, O'Shaughnessy M V & Schechter M T (2003). Impact of supply-side policies for control of illicit drugs in the face of the AIDS and overdose epidemics: investigation of a massive heroin seizure. *Canadian Medical Association Journal*, 168, 165-169.