

BULLETIN NO 8: ILLICIT DRUGS IN AUSTRALIA: WHAT DO WE KNOW ABOUT THE ROLE OF PRICE?

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Rationale

There has been an increasing awareness of the importance of using price information to understand illicit drug markets. Internationally, researchers have found relationships between illicit drug prices and other market characteristics such as the numbers of drug users, the proportion of arrestees testing positive to drugs and the number of drug-related emergency department incidents.

This work aimed to assess whether the Australian heroin market shares the same basic characteristics (eg. real prices falling over time, significant price variability) as other illicit drug markets where more price analysis has been done; and begin to explore the relationship between price and harm. It is hard to measure how much heroin is being consumed with any precision, making it extremely difficult to understand the relationship between drug use and the harmful consequences that result from use. On the other hand other market characteristics, such as price, can be better measured. If there are relationships between price (as an indirect measure of consumption) and harms, we can use price (and potentially other market data) to assess harms and policy responses.

Approach

Sources of price information were reviewed. As price is commonly measured in terms of “price per pure gram” for some types of drugs (notably heroin and cocaine), information on purity and weight also need to be considered. As such, the analyses require formula that accommodate price, purity and weight.

In addition to reviewing studies and surveys for what they revealed about illicit drug price characteristics, we also used primary data to develop a high-frequency price series for Victoria between 1998 and 2004. For this preliminary set of analyses, Victorian price data has been taken from the Illicit Drug Reporting System, along with purity and weight information from the Victoria Police Forensic Science Centre.

Detailed econometric analyses are required to properly understand the nature of the relationships between price and other characteristics. However, we have used this prototype price series to gain an initial understanding of the relationship between heroin price and overdoses.

Results

From the literature we ascertained:

Large variations in the prices of illicit drugs have been observed, for example Weatherburn and Lind (1995) found in their 299 samples that the price per gram ranged from \$118 to \$11,667 and the price per pure gram ranged from \$206 to \$26,144;

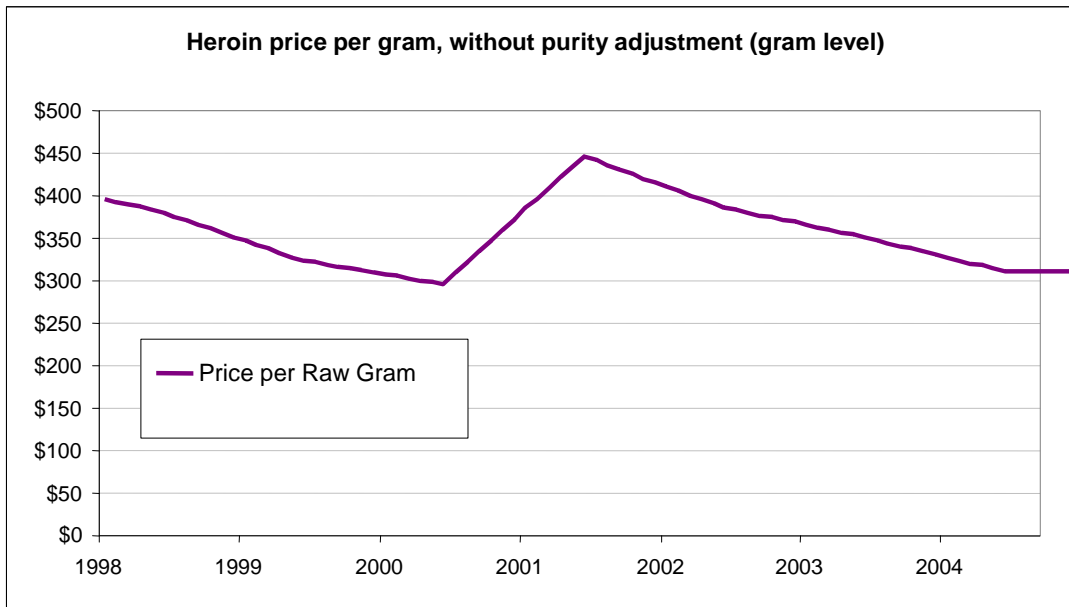
Substantial quantity discounts have been observed for heroin and marijuana;

The price of heroin in Sydney declined in latter part of the 1990s, and then increased in 2001 (Degenhardt et al, 2004). A perfunctory analysis of recent ACC data suggests there has been no consistent trend in the price of heroin since then;

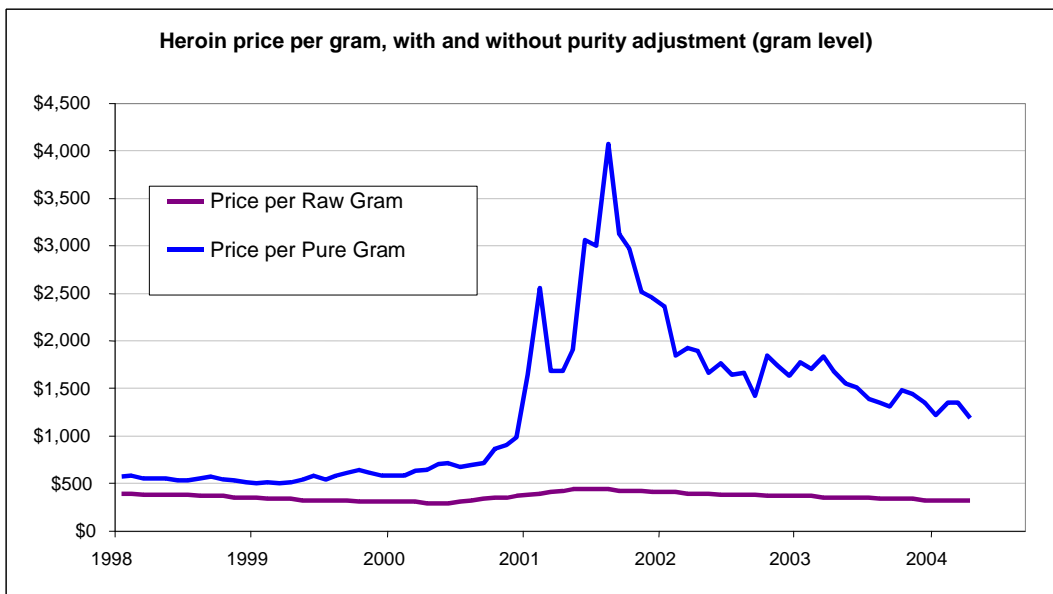
During the heroin shortage in 2001, heroin users seemed to be sensitive to changes in the price, purity and availability of heroin (Weatherburn et al., 2001); and

There is evidence in Australia that normal fluctuations in the price of heroin have no effect on treatment entry (Weatherburn & Lind, 1997).

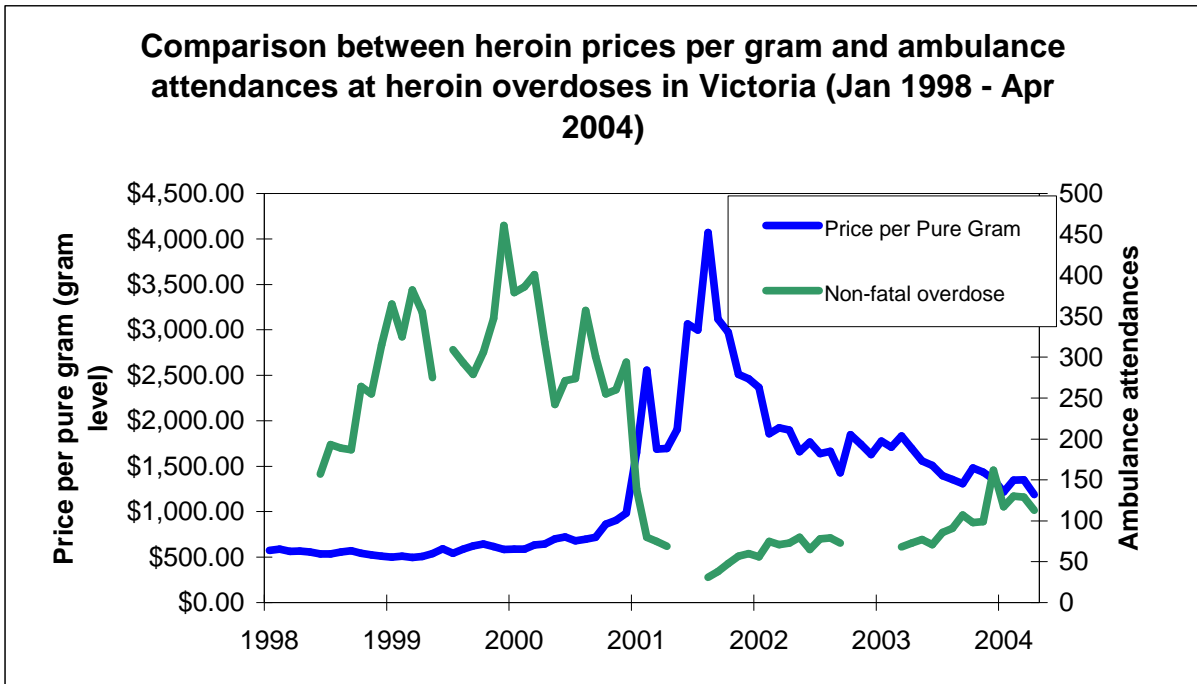
Our own analyses provide additional insights. The price paid for a raw (impure) gram of heroin shows the effect of the heroin drought, with a 50% rise in the price between 2000 and 2001 (see figure below).



When adjustments are made for purity (by combining the IDRS data and the Victoria Police data), the data reveal the true extent of the drought (see graph).



Finally, in preliminary work, we have examined the relationship between price per pure gram and non-fatal overdoses. As displayed in the graph below, there is a strong negative association between price and harm. Fluctuations in price per pure gram account for 86% of variance in overdose rates.



Note: The heroin overdoses measured here are ambulance attendances at non-fatal overdoses that were classified as “definitely heroin”, on the basis of a positive response to the administration of Narcan.

Implications

We have demonstrated with preliminary analyses that price data can be used to explain changes in the heroin market. There is a strong association between price and harm (in this instance non-fatal heroin overdoses). The next step is to better understand the relationship between price and policy interventions. If we understand how a policy affects price of heroin, we can assess what effect the policy then has on harms.

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Assistance with IDRS data was provided by Paul McElwee and Shannon Monagle. The seizure data was provided by Glenn Groves of the Victoria Police Forensic Centre.