Response

Law enforcement and Australia's 2001 heroin shortage: Evaluating the evidence

Kora DeBeck[a], Evan Wood[a,b,*]

[a] British Columbia Centre for Excellence in HIV/AIDS, Canada
[b] Department of Medicine, University of British Columbia, Canada

Globally, illicit drug policy is largely based on two central policy objectives. The first is to reduce the demand for illegal drugs mainly through criminalisation, drug prevention and treatment, and the second is to reduce the supply of illegal drugs primarily through law enforcement initiatives (Health Canada, 2005; National Research Council, 2002; Office of National Drug Control Policy, 2006). Supply reduction generally involves targeting the production and distribution of illegal drugs through crop eradication in drug producing countries, extensive boarder control and interdiction systems, and dismantling local and international drug distribution networks (General Secretariat, 2004; Office of National Drug Control Policy, 2006). These supply reduction measures have been found to receive the overwhelming majority of drug policy funds (Boyum & Reuter, 2005; DeBeck, Wood, Montaner, & Kerr, 2006; Office of the Auditor General of Canada, 2001; Rehm et al., 2006).

However, the effort to promote government accountability has increased pressures on policy-makers to justify policy investments and provide scientific-based evidence in support of policy decisions (Dobrow, Goel, & Upshur, 2004; Goldman et al., 2001; Rosenstock & Lee, 2002). In the case of funding for supply reduction efforts, this has been difficult to accomplish. Rather, monitoring data on the price and availability of illegal drugs has long indicated that law enforcement is failing to achieve its supply reduction objectives (General Secretariat, 2004; United Nations Office on Drugs and Crime, 2005; United Nations Office on Drugs and Crime, 2006). The lack of empirical evidence supporting the effectiveness of law enforcement-based policies is

widely acknowledged (National Research Council, 2002), and Reuter has done an elegant job examining the discordance between drug policy research and drug policy responses (Reuter, 2001).

However, beginning in early 2001 Australia experienced a severe heroin shortage and various investigations have examined the potential impact of law enforcement as a potential explanation (Degenhardt, Reuter, Collins, & Hall, 2005; Smithson, McFadden, & Mwesigye, 2005; Weatherburn, Jones, Freeman, & Makkai, 2001; Weatherburn, Jones, Freeman, & Makkai, 2003). To their credit, those who have hypothesized about the potential role of law enforcement have been extremely careful to stress that "it is difficult to make definitive statements about the causes of the shortage" (Degenhardt et al., 2005). However, despite the cautious conclusions of researchers, a range of media reports and statements of policy-makers have commonly accepted, as fact, the conclusion that the Australian heroin drought largely resulted from law enforcement efforts (Australian Federal Police, 2001; Australian Federal Police Commissioner, 2006; Gordon, 2002).

This is problematic given that the existing evidence base to support the assertion that law enforcement played a key role in producing the heroin shortage has not been systematically evaluated. In this issue of *The International Journal of Drug Policy* Dr. John Jiggens (2007) raises concerns surrounding how a number of heroin consumption and seizure estimates have been reported. He also presents alternative estimates of the size of Australia's heroin market based on the number of heroin users (as reported in the national household survey) to challenge the theory that law enforcement, through heroin seizures, was a factor contributing to the shortage. Based on his analysis, the proportion of the heroin market seized by law enforcement leading up to the shortage was not dramatically different than previous years, leading to his conclusion

* Corresponding author at: British Columbia Centre for Excellence in HIV/AIDS, 608-1081 Burrard Street, Vancouver, BC, Canada V6Z 1Y6. Tel.: +1 604 806 9116.

  E-mail address: uhri@cfenet.ubc.ca (E. Wood).

Table 1

Summary of evidence and overview of the drug law enforcement theory

	Evidence	Sources referenced
Background to theory		
"Following Wood Royal Commission 1994–1997 less experienced specialized squads probably lacked the resources (including informants) and expertise to [investigate networks]"[a]	No evidence provided	NDARC Technical Report no. 167[a]
"There was limited funding for national and international drug law enforcement (DLE) efforts in the early 1990s, in particular for the border and international operations of the Australian Customs Service (ACS) and the Australian Federal Police (AFP)"[a]	No funding records provided	NDARC Technical Report no. 167[a]
"Increases in funding in 1998 as a result of the National Illicit Drug Strategy"	No funding records provided	Australian Federal Police[a]
"Shift towards a more international focus of the AFP and ACS"[a]	None	Australian Federal Police[a]
Basis of theory		
"These changes relative to the previous level of drug law enforcement may have improved the ability of the AFP and ACS to interdict large shipments of illicit drugs and to disrupt the activities of organized criminal networks involved in high-level drug importation"[a]		
(a) Arrests of key individuals in drug production and trafficking (*number of arrests is unspecified)	Key informant	Personal communication with Australian Law Enforcement[a]
	Media Report	Sydney Morning Herald[b]
	Media Report	Australian Broadcasting Corporation[c,d]
(b) Large seizures of heroin in 1999–2000	Seizure records	Australian Law Enforcement[a,b,c]
Conclusion		
"Seizures accompanied by the arrests of key facilitators between SE Asian financiers and Australian importers (law enforcement sources) may have reduced heroin supply in either or both of two ways by (a) disrupting the ability of criminal networks to import large amounts of heroin into Australia; and/or (b) deterring groups in SE Asia/source countries from bringing large shipments of heroin into Australia"[a]		
Supporting evidence		
Heroin trafficking was highly centralized among six major suppliers	Key informants	Personal communication with AFP, Royal Thai Police, the Thailand ONCB, NSW Police[a]
Heroin seizures in 1998–1999 resulted in three of the six major suppliers ceasing heroin supply	Key informants	Personal communication with Royal Thai Police, AFP[a]
Heroin seizures in 1999–2000 resulted in remaining three major suppliers of heroin to 'pull back' from supplying to Australia	Key informants	Personal communication with Royal Thai Police, Thailand ONCB, ACC, AFP Thailand[a]
Former major heroin importers shifted to money laundering	Key informant	Personal communication with AFP Thailand[a]
By the end of 2000 high level Australian heroin distributors were organizing alternative sources of heroin in SE Asia	Briefings[a]	None
Canada did not experience similar heroin shortage	Key informant	Personal communication with Vancouver Police Department Officer[a]
China did not experience similar heroin shortage	Survey data on recorded number of heroin users	UN Office for drug control[a]
Substitution to methamphetamine production was unlikely: more likely that simultaneous production of heroin and meth took place	Key informant	Personal communication with Thailand ONCB[a]
Autoregression model suggests 10–20% of variance in residuals of heroin purity was predicted by lagged residuals of seizure-number and log–weight series	Autoregression model	Smithson et al. (2005)

[a] For full details see Degenhardt et al. (2005).
[b] For full details see Weatherburn et al. (2001).
[c] For full details see Weatherburn et al. (2003).
[d] For full details see Smithson et al. (2005).

that law enforcement initiatives were unlikely to have played a role in precipitating the shortage. This approach would appear to undermine prior conclusions that law enforcement was likely to have played a role in precipitating the shortage (Degenhardt et al., 2005; Degenhardt, Day, Gilmour, & Hall, 2006; Weatherburn et al., 2003; Smithson et al., 2005). His analysis of international drug production trends is also enlightening given prior assertions.

Jiggens' approach contains a number of inherent limitations. First, given the illegal status of heroin, measuring heroin consumption is a complex undertaking and the Australian household survey is not specifically tailored to account for such challenges. As a result, the reliability of consumption estimates derived from the household survey is limited. In addition, for the time periods examined there were gaps in the availability of measures for key variables of interests (e.g. heroin seizure amounts and estimates on the number of heroin users) further weakening the strength of Jiggens' approach. Despite these limitations, Jiggens' analysis provides a compelling basis to evaluate some of the commonly held assumptions about the shortage, and highlights the need to systematically evaluate prior evidence.

A number of published research reports (Degenhardt et al., 2005; Smithson et al., 2005; Weatherburn et al., 2001, 2003) evaluated the theory that law enforcement operations were likely a contributory cause of the shortage. The central components of various theories and conclusions, along with a catalogue of the evidence and sources referenced to support the author's conclusions are displayed in Table 1. As shown here, several conclusions made in support of the theory of law enforcement are based largely on the impressions and opinions (e.g. personal communications) of a select group of stakeholders rather than more reliable forms of evidence that are less prone to bias.

Systematic approaches to interpret and weigh types of evidence using grading hierarchies are increasingly common (Guyatt et al., 2000). Among these hierarchies, "expert opinions" (e.g. key informant interviews) are generally categorized as the least reliable type of evidence as they are considered to lack objectivity and scientific basis (Oxford Centre for Evidence-Based Medicine, 2007). Applying these same principles to the evidence presented in Table 1 suggests that the evidence base to support the theory that law enforcement had a key role in precipitating the heroin shortage must be interpreted with caution. For instance, in one study (Degenhardt et al., 2005), the opinion of one police officer is reported to support a hypothesis, whilst local heroin researchers and a host of publicly available quantitative data which contradicted this opinion was not considered (Wood, Stoltz, Li, Montaner, & Kerr, 2006).

The above assessment does not suggest that the authors of earlier studies, such as Degenhardt et al. (2005) should be criticized for their prior work in this area. On the contrary, prior investigators have been guarded in their conclusions and have stressed the limitations of their data sources (Degenhardt et al., 2005, 2006). Unfortunately, in the case of the Aus-

tralian heroin shortage, research consumers including the media and policy-makers appear to have commonly overlooked these cautions (Alcohol and Other Drugs Council of Australia, 2003; Australian Federal Police, 2001; Australian Federal Police Commissioner, 2006; Gordon, 2002). Hopefully, the article by Jiggens will reinvigorate investigation into the causes of the Australian heroin shortage with the ultimate goal of informing the way forward in global drug policy. At the end of the day, vast drug related harms persist as a result of the global illicit heroin market and reducing the related human suffering through both continued scientific exploration and appropriate drug policy response should be our primary goal. Part of this approach will require better acknowledging the limitations of our data sources to prevent misinterpretations of our work by policy-makers and the further entrenchment of harmful policy approaches (Reuter, 2001).

Acknowledgment

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