ABSTRACT

Illicit drugs such as amphetamine-type stimulants, and more specifically methamphetamine, are manufactured in Australia within clandestine laboratories that range from crude, makeshift operations using simple processes to sophisticated operations. The manufacture of methamphetamine if commonly undertaken in residential homes located in urban and rural areas and is known to be associated with a wide range of hazards derived from the chemicals used in manufacture, gases produced during manufacture, drugs and drug residues as well as wastes. This research project has been undertaken to obtain environmental and biological data to better understand and characterise potential exposures and long-term health risks that may occur as a result of clandestine manufacture of methamphetamine within residential homes in Australia.

Information and data have been collected from interviews conducted with individuals convicted of the manufacture of methamphetamine as well as Police and forensic investigators involved in the detection and assessment of these drug laboratories; characterisation of environmental contamination levels in properties formerly used for the manufacture of methamphetamine; and a number of case-studies where co-located environmental contamination, biological and health data have been obtained from individuals inadvertently exposed to contamination from former drug manufacturing.

These data comprise a mix of qualitative and quantitative data that provide consistent evidence of the following:

- Activities and behaviours associated with the clandestine manufacture of methamphetamine results in the contamination of surfaces and possessions inside properties, as well as outdoors from the disposal of waste.
- The level and spread of contamination can vary significantly within individual properties, based on a wide range of factors associated with the manufacture and the property. However there is the potential for the level of contamination to be significantly elevated above current guideline levels.
- The manufacture of methamphetamine, and exposure to contamination that remain within a former drug laboratory have the potential to result in a range adverse health effects.
- Police and forensic investigators understand the potential for exposure and health effects when entering methamphetamine drug laboratories and have procedures to minimise exposure. For the participants involved in this study, and the time period of exposure evaluated, these procedures are preventing exposures to methamphetamine.
- For the general public who may be inadvertently exposed to contamination in former methamphetamine drug laboratories in properties purchased or rented, there is the potential for significant levels of exposure and intake of methamphetamine, particularly for

young children. Exposures that have occurred in these situations have resulted in adverse health effects in the families evaluated in this study.

Based on the information and data evaluated in this research, the current understanding of potential risks to the public posed by these properties appears to be underestimated. These risks are further enhanced by difficulties in the detection of, and the effective assessment and remediation of former clandestine drug laboratories in various jurisdictions in Australia.

The data collected in this research has been used to develop a risk matrix to determine the level of risk posed to the community by a former clandestine drug laboratory which can help direct the appropriate level of assessment and remediation.