

# Science and evidence informing policymaking in New Zealand: The meth contamination story

Anne Bardsley

University of Auckland, Private Bag 92019, Auckland 1142

*The following is based on a presentation given at the NZAS 2018 Annual Conference New Zealand Perspectives at the Interface of Science and Policy, and provides a brief overview of the complex story that led to the most dramatically impactful report produced during Sir Peter Gluckman's tenure as the Prime Minister's Chief Science Advisor – 'Methamphetamine contamination in residential properties: Exposures, risk levels, and interpretation of standards' (Gluckman et al. 2018). Release of the report rapidly shifted policies across a number of government agencies and abruptly curtailed the predatory practices of an industry which had flourished because of a particular failure in the science-to-policy exchange: no one had asked the right question.*

## What happened?

The tangled methamphetamine contamination story in New Zealand began with a real problem in need of solutions. Methamphetamine (meth) is New Zealand's major drug of abuse, and is either imported or is made domestically in clandestine laboratories (labs) in homes and garages. Such labs leave behind a range of hazardous chemicals and solvents used in the methamphetamine manufacturing process that can pose a risk to future occupants.

Recognising that contamination from meth labs was a potentially serious health issue in some circumstances, guidelines for cleanup of such labs were established in various jurisdictions internationally from around the mid-2000s. The easiest way to demonstrate that decontamination is sufficient is to require cleaning to a threshold level of methamphetamine on surfaces. This eliminates the need to test for every possible contaminant, which can vary according to method of manufacture. The guidelines therefore use methamphetamine as a proxy marker for other, more dangerous contaminants left behind from the manufacturing process. These toxins would not be present if methamphetamine was present only from use.

The guidelines (variably) provide info on:

- Triggers for screening – typically a police bust of a lab, or notification from a health authority

- Methods of screening and remediation – including the necessary qualifications of the persons performing these tasks
- Levels of surface methamphetamine residue allowable after remediation – usually 0.5–1.5 µg of meth/100 cm<sup>2</sup> surface area

In the absence of data on health risks for low-level methamphetamine exposure, the guideline remediation levels were initially based on the limit of detection of the screening instruments, assuming that any exposure was undesirable. While some efforts were later made to calculate health risks in relation to methamphetamine levels, these purposefully precautionary toxicological calculations were based on theoretical modelling exercises that were unrelated to real-world exposure scenarios.

As police discovered an increasing number of active or former meth labs in residential properties in New Zealand, attention to this problem increased, and the Ministry of Health followed international example, producing a guideline for clandestine lab remediation in 2010 (Ministry of Health 2010). The guideline set a post-remediation meth detection level of 0.5 µg/100 cm<sup>2</sup>, based on the established Australian guideline level. As with other guidelines, the specified trigger for entering a house to screen for methamphetamine on surfaces was a police bust of a lab, or other notification of methamphetamine manufacturing activity. The purpose of the guideline was articulated very clearly – it was for cleaning sites where meth had been manufactured.

However, along the way, policies were developed, notably by Housing New Zealand, that applied the same standards to any house where methamphetamine might have been smoked. Such action has not been taken elsewhere where guidelines exist because the problem with lab contamination is not the methamphetamine, but the other chemical hazards. Nevertheless, following the example of decisions of Housing New Zealand and the Tenancy Tribunal, a number of city councils and the real estate industry began to apply the threshold level as a baseline test to detect methamphetamine residues from smoking. The application of the standard in this way dispro-

\*Correspondence: a.bardsley@auckland.ac.nz



Dr Anne Bardsley is a Senior Research Fellow at the University of Auckland, and the Associate Director for Research at the Centre for Science in Policy, Diplomacy and Society. She worked for six years in the Office of the Prime Minister's Chief Science Advisor as a Research Analyst, authoring numerous policy-relevant reports with Sir Peter Gluckman, including the subject of this article: 'Methamphetamine contamination in residential properties: Exposures, risk levels, and interpretation of standards'. <http://www.pmcsa.org.nz/wp-content/uploads/Methamphetamine-contamination-in-residential-properties.pdf>

portionately affected people of low socio-economic status due to its application to the social housing sector and by landlords in low-income rental areas.

On the back of these developments, a large unregulated testing and remediation industry grew up, using unsupported claims of harm from third-hand meth exposure to feed the public fear of meth contamination and increase the number of houses being tested. Houses were labelled contaminated based on findings of trace amounts of the drug, and companies advised that major remediation needed to be undertaken. Huge costs were incurred, both financially and socially, both for the government and private individuals caught up in the testing and remediation saga.

## Where was the science?

In 2016 some scientists began to speak up, highlighting the irrationality of the fear and questioning the activities of the meth testing industry and evictions by Housing New Zealand. Their viewpoints gained some media attention (Goodwin 2016; Harris 2016; Radio New Zealand 2016), but the panicked response to the contamination issue continued.

The government's approach to the situation was to ask Standards New Zealand to develop standards in an attempt to regulate the meth-testing industry, whose practices were seen as inconsistent and unreliable. Science input was sought only tangentially to determine an appropriate level for detection level for methamphetamine after remediation, rather than asking if it was appropriate to use such a level for baseline testing. The result was to create an official standard – NZS 8510, released in July 2017 (Standards New Zealand 2017) – that effectively lent legitimacy to the questionable business model of the testing industry, allowing the practice of rampant testing and remediation to continue without consideration of the larger issue about whether the mitigation activities were commensurate with the actual risks.

## A request for science advice

Following the change in government in 2017, the approach to methamphetamine contamination in the social housing sector began to change. The new Minister of Housing, Phil Twyford, questioned whether the new NZS 8510 standard was appropriate, and being appropriately applied. He approached the Prime Minister's Chief Science Advisor, Sir Peter Gluckman, in December 2017 to review the situation, focusing on health risks from exposure to methamphetamine on household surfaces. Because the current version of the Residential Tenancies Amendment Bill would have set the NZS 8510 standard into law, advice was needed to inform decisions around this.

When the Chief Science Advisor came to look at the problem it became clear that no-one had asked the core question – why was testing being done in the first place? Because testing was being done to avoid risks from methamphetamine itself, rather than the original purpose of avoiding risks from other hazards of the meth manufacturing process, further questions needed to be asked:

- What is known (and not known) about health risks from low-level methamphetamine exposure? What level of exposure might elicit a health effect?
- How did this relate to exposure to methamphetamine on household surfaces?
- What is the toxicological basis for guideline levels?

The New Zealand situation needed to be understood in terms of:

- The likelihood that significant exposure will occur in New Zealand houses
- Trends in meth use and manufacturing in New Zealand
- Other factors that need to be considered in a New Zealand-specific risk assessment.

The work included:

- An exhaustive literature review
- Search for case studies – literature and direct requests
- Data relating exposures to effects
- New Zealand datasets on meth levels in houses where use was suspected
- Involvement of a wide range of expertise and stakeholder perspectives.

## Science advice and impact

The Chief Science Advisor's report found that there is currently no evidence that methamphetamine levels typically resulting from third-hand exposure to smoking residues on household surfaces can elicit an adverse health effect. Analysis of New Zealand-specific data indicated a very low probability of encountering excessive levels of methamphetamine in properties where meth lab activity is not suspected. Given these factors, and also considering the very conservative nature of the standards with respect to the risks of adverse effects from third-hand exposure to methamphetamine, testing was only recommended where meth lab activity is suspected or where very heavy use is suspected.

The input from the Chief Science Advisor was critical to the halting of wasteful and unfair policies, but not before much damage had been done. Had independent, rigorous, comprehensive science advice been sought earlier, leading to the right questions being asked and analysed from an unbiased, risk-based perspective before faulty standards were developed, the focus would have remained on meth labs, and the government would not be having to manage a lot of compensation for prior errors.

## References

- Gluckman, P.D., Bardsley, A., Low, F. 2018. *Methamphetamine Contamination in Residential Properties: Exposures, risk levels, and interpretation of standards*. Office of the Prime Minister's Chief Science Advisor, Auckland.
- Goodwin, E. 2016. 'Minimal' meth risk in homes. *Otago Daily Times*. Retrieved from <https://www.odt.co.nz/news/dunedin/minimal%E2%80%99-meth-risk-homes>
- Harris, C. 2016. Methamphetamine residues not the big health worry people fear: scientist Nick Kim. *Stuff*. Retrieved from <https://www.stuff.co.nz/business/industries/81102711/Methamphetamine-residues-not-the-big-health-worry-people-fear-scientist-Nick-Kim>
- Ministry of Health 2010. *Guidelines for the Remediation of Clandestine Methamphetamine Laboratory Sites*. Ministry of Health, Wellington.
- Radio New Zealand 2016. Cold homes, not P, the health culprit – academic. Retrieved from <https://www.radionz.co.nz/news/national/299308/cold-homes,-not-p,-the-health-culprit-academic>
- Standards New Zealand 2017. *Testing and Decontamination of Methamphetamine-Contaminated Properties*. Standards New Zealand, Wellington.