

New report on meth in rental properties

4 June 2018

The NZPIF is pleased with the findings of a new report into whether residual meth in New Zealand homes poses a risk to human health.

The following is a summary of the report findings. You can view a copy of the full report [here](#).

Summary of the Gluckman Methamphetamine report

The report examines whether, and at what level of detection, methamphetamine residue on household surfaces poses a risk to human health.

While the report found some evidence for adverse physiological and behavioural symptoms associated with third-hand exposure to former meth labs that used solvent-based production methods, these symptoms mostly relate to the other toxic chemicals in the environment released during the manufacturing process, rather than to methamphetamine itself.

The researchers found that there are no published (or robust, unpublished) data relating to health risks of residing in a dwelling formerly used only for smoking methamphetamine.

From August 2010 until June 2017, the only available guidance for cleaning of contaminated dwellings was a Ministry of Health guideline which was intended to be applicable to former meth labs.

According to the report, these guidelines were incorrectly interpreted to mean that anything over the limits of the guideline would cause health problems to people living in the property.

overseas guidelines developed for cleaning after manufacture have increasingly been used in New Zealand to suggest a need for methamphetamine testing more generally, regardless of whether or not manufacturing activity is suspected.

There developed an assumption among the general public that the presence of even trace levels of methamphetamine residue in a property posed a health risk.

In June 2017 a new standard of 1.5 micrograms per 100cm² was selected as the clean-up level in the New Zealand Standard on the testing and decontamination of methamphetamine-contaminated properties (NZS 8510:2017). This used scientific evidence from an Institute of Environmental Science and Research (ESR) review. This threshold was chosen for reasons of practicality and did not distinguish between former labs and premises where methamphetamine was used.

How were the current guidelines established

Because of its stimulant and euphoria-inducing properties, methamphetamine is commonly used as a recreational drug. Methamphetamine is highly addictive at doses used recreationally, so this type of use often leads to continual drug-seeking behaviour and drug abuse.

However Methamphetamine is also a legally prescribed medication in the United States for the treatment of attention deficit hyperactivity disorder (ADHD).

Methamphetamine is not used therapeutically in New Zealand; it is classified as a Class A controlled drug, carrying severe penalties for possession, supply, and manufacture.

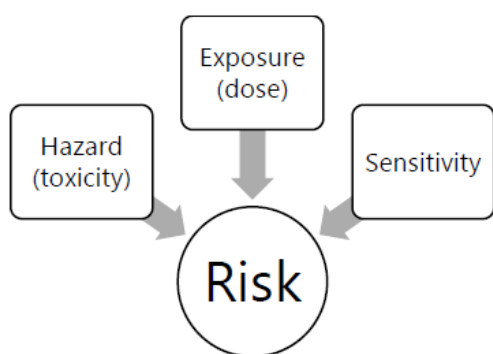
While methamphetamine supply seems to be plentiful, the number of confirmed meth labs detected has been decreasing in recent years.

In addition, manufacturing methods have changed due to restrictions on the sale of solvents and certain precursor chemicals previously used. Now the most common method do not use solvents and the reaction is mostly performed by distillation with water in contained vessels that do not emit fumes.

Misunderstandings of hazard, exposure and risk

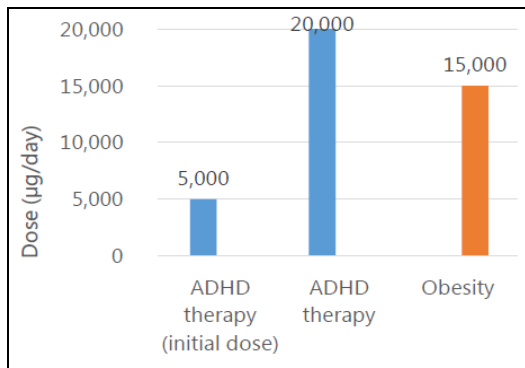
There is widespread misperception that any methamphetamine-related activity in a dwelling, no matter how low the level, results in 'contamination' that has the potential to produce negative health effects. However the mere presence of methamphetamine does not present a health risk.

The risk posed by a hazardous substance depends on how *toxic* it is, and the level of an individual's *exposure* and *sensitivity* to it. it only poses a risk if there is a realistic route and duration of exposure, and the doses are high enough.



Methamphetamine is not considered to have high intrinsic toxicity – if so, it could not be used as a therapeutic drug for ADHD and obesity.

To put the current of 1.5 micrograms per 100cm² meth guidelines into perspective, an initial dose for a 20kg child in America for ADHD is 5,000 micrograms per 100cm² and the maintenance dose is 20,000 micrograms per 100cm².



The dose of 1.5 micrograms per 100cm² is so low that it doesn't pose any health risk.

There are two important points to be noted about the remediation guidelines. First, from a health perspective, none should be interpreted as a specific 'threshold' that if exceeded – and particularly by a small margin – is likely to result in an adverse effect. The second point is that the guidelines can be considered to be very conservative as they are deliberately based on factors assuming 'worst case' scenarios that are unlikely to reflect a real-world situation.

Are there health risks from passive methamphetamine exposure?

The health risks posed by meth are dependent on the type and level of exposure. The adverse effects of first hand exposure (smoking, ingesting or injecting large doses) are well documented.

There are also reports of ill-health from second hand exposure, from residing in a dwelling that has been used to manufacture meth.

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.

Risks in perspective

When considering how to determine whether a risk is high enough to warrant substantial remediation measures, it sometimes helps to compare the risk to other similar risks, and consider how they are dealt with (or not) in society. For example, we do not test for or regulate 'third-hand smoke' residues from cigarettes, which contain carcinogenic polycyclic aromatic hydrocarbons such as benzopyrene, as well as nicotine, which are measurable on indoor surfaces months after the last smoke.

A study by ESR of ~1,600 New Zealand public sector residential properties that were suspected to have methamphetamine contamination can provide a general idea of the range of methamphetamine levels that may be found in affected dwellings.

Of the total number of properties tested, approximately two thirds showed some detectable levels of methamphetamine. These dwellings by definition represent a biased sample with higher potential for methamphetamine contamination, being rental accommodation, and considering that in most cases the landlord or agency had 'reasonable cause' to suspect methamphetamine use. The data are therefore likely to significantly overestimate the extent of the problem in the wider New Zealand housing stock. The data show that out of more than 13,000 surface samples taken, over 75% had methamphetamine levels under 1.5 micrograms per 100cm², and approximately one third were

negative. The average level in positive samples was 2.7 micrograms per 100cm². Thus, smoking-related levels, although generally exceeding the NZ standard clean-up level, are still very low.

Less than 1% of the samples in the ESR dataset tested above 30 micrograms per 100cm², suggesting a low prevalence of properties potentially used for manufacture. Even then, toxic compounds such as lead and mercury that are typically used in traditional production methods have not been found in meth labs in New Zealand.

Implications for methamphetamine screening and remediation

Given the low probability of encountering high levels of methamphetamine in properties where meth lab activity is not suspected, and also considering the very conservative nature of the standards with respect to the risks of adverse effects from third-hand exposure to methamphetamine, a risk-based approach suggests that the guideline of 1.5 micrograms per 100cm² should not be universally applied.

Remediation is certainly warranted if high levels of methamphetamine are present that are indicative of manufacturing activity or excessive smoking. Levels >30 micrograms per 100cm² are considered by forensic experts to signify that manufacture is likely to have taken place [10]. Testing for lower levels that still suggest relatively high levels of smoking (e.g. >15 micrograms per 100cm²) could be used to identify specific areas of contamination that warrant remediation. Remediation includes removal of all potentially contaminated porous materials or items (furnishings, carpets) and cleaning of the contaminated surfaces, using the NZS 8510:2017 standard as a guide.

Where lower levels are detected, remediation is often not justified. However, as low levels cannot definitively rule out manufacture, remediation down the 1.5 micrograms per 100cm² standard may be prudent if there is also sound reason to suspect previous meth lab activities. This would only be as a precautionary measure to remove other toxicants that may be present but not measured.

Recommendations for risk-based assessment of properties

Testing for methamphetamine in residential properties should not be the default pathway. From a risk perspective, testing is only necessary where meth lab activity is suspected or where very heavy use is suspected.

There is merit in using tests that rapidly provide a simple positive or negative result in multiple locations for detection of higher levels on site, followed by sensitive testing in targeted areas that produce a positive signal.

Further considerations and next steps

This report is intended to contribute to a discussion about an appropriate approach to managing properties affected by methamphetamine in a manner that is appropriate with the risks to individual property owners, tenants, and New Zealand as a whole. Several areas need to be considered further:

- The validation of rapid tests for use in New Zealand that are accurate for detection of contamination at levels higher than the current standard is critical if the above recommendations are to be utilised. The recommendations are based on an available test with a detection level of 1.5 micrograms per 100cm², but other rapid tests and methodologies could potentially be

validated with detection levels below this (e.g. 5–10 micrograms per 100cm²), which would be equally useful as screening tools to detect only areas of relatively high contamination.

- More work is needed to develop guidelines around what constitutes a reasonable suspicion of the presence of a former meth lab, taking into account the changing environment of manufacturing. Similarly, a clearer definition of what constitutes 'excessive use', and how this is reflected in contamination levels, is warranted. ESR is currently undertaking important work in these areas.
- Guidelines are needed to support landlords in creating operational procedures and policies.
- Accreditation of testers is needed to ensure testing protocols can be trusted to return consistent and scientifically supportable results.

Conclusions

- 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.
- Toxicity assessments and exposure dose models have deliberately adopted very conservative assumptions, with large safety margins built in.
- Taken together, these factors indicate that methamphetamine levels that exceed the NZS 8510:2017 clean-up standard of 1.5 micrograms per 100cm² should not be regarded as signalling a health risk. Indeed, exposure to methamphetamine levels below 15 micrograms per 100cm² would be highly unlikely to give rise to any adverse effects.
- testing is not warranted in most cases. Remediation according to the NZS 8510:2017 standard is appropriate only for identified former meth labs and properties where excessive methamphetamine use, as indicated by high levels of methamphetamine contamination, has been determined.