

Pill testing*

Date published: 26 February 2019

What is it?

Pill testing is a harm reduction strategy that enables people who use illicit drugs to have their substances chemically analysed to identify the nature and concentration of the contents.¹

It recognises that despite the presence of law enforcement and previous prevention messaging, illicit drugs are still getting into festivals at significant levels.^{2,3}

Testing facilities have been effectively used internationally since the 1990s and are currently available in many countries in Europe and in New Zealand.^{2,4} In many European countries, on-site, high-grade testing is offered where results can be provided on the spot, rapidly, and in venues where drug use is common.⁵ There is growing interest in providing testing from fixed locations as in the Netherlands' Drug Information and Monitoring System, at music events (UK), and in supervised health care facilities (Canada).

Pill testing can give people who use drugs an opportunity to gain accurate harm reduction information; brief counselling in a non-judgmental setting; and, referral to treatment services.³⁻⁶

Methods of testing vary from home kits using reagent testing (chemicals that change colour when reacting) through to highly technical testing in a professional environment.¹

There are several approaches to pill testing: 'analysis and consultation' (formally referred to as 'front of house'); and, 'analysis only' (formally referred to as 'back of house').

'Analysis and consultation' (AC) testing facilities allow for consumers, who are already in possession of a substance, to purposefully engage in an easily accessible service. An AC facility is set up to inform and educate consumers by testing drug samples in real time, allowing services to transmit safer-use messages that can cover a wide array of topics, including acute/short term hazards, long term hazards, legal risks and harm minimisation strategies.⁷

This service differs from 'analysis only' (AO) facilities (sometimes referred to as 'halfway house testing') which tests discarded, seized or found substances, with no direct contact with consumers. AO testing has primarily been an intelligence gathering exercise rather than a directly stated or intended harm reduction, real time, strategy. An AO testing model typically has a lag time between testing and communication (if any) to consumers regarding warnings about 'dangerous' substances in circulation.⁸

* Pill testing does not guarantee the drug will be safe. An individual may still have a unique response to the combination of substances in a pill, even if the individual contents are known. It is important to note here that the aim of pill testing is to reduce consumption in the first instance.

Why?

Recent innovations in illicit drug synthesis, may have led to more dangerous substances circulating on a global market.⁹ In 2014 the European Early Warning System made notifications for 101 new psychoactive substances (NPS) not previously reported.¹⁰ Many of these new substances are sold in forms far more potent than ‘traditional’ psychoactive substances thus increasing risk of harm.¹¹ Current knowledge about NPSs is limited and even less is known about the risks of mixing substances with alcohol or other drugs.

Many pill testing initiatives in Europe were introduced with the aim of extending prevention activities to a group of people not reached by other prevention activities. By introducing pill testing, prevention organisations were able to access this population in a setting that was not only considered trustworthy but also guaranteed anonymity and confidentiality.¹²

Pill testing reduces the risk of harm and helps people remain safe. A key element of this approach is providing accurate information. Although this may not prevent illicit drug use, it encourages better informed decisions that may modify behaviour and reduce risk.

Pill testing helps people who use recreational drugs, often at music or popular culture events, to gain better knowledge about the substance they intend to consume. Most people who use drugs recreationally use them infrequently and they do not differ from people who don’t use drugs in most respects.¹² Pill testing ensures they are in a stronger position to review their decision to use the drug.

Pill testing can also help monitor demographic data about users of drugs, drug trends and patterns of use that assist health and law enforcement agencies.^{4,13}

Pill testing can draw a crucial distinction between the anticipated and actual content of drugs about to be consumed, potentially saving the intended consumer’s life. Testing can also aid understanding of illegal drug markets and act as an early warning system about substances of concern.¹⁴

Pill testing therefore serves many purposes:

- It allows consumers to be better informed about the drugs they have, thus the potentially saving lives.
- It helps identify emerging trends in drugs and NPSs.
- It provides a unique opportunity to deliver prevention and harm reduction education that is trusted and valued.¹⁵

Arguments for pill testing:

- Pill testing can reduce harm and avoidable deaths.
- Pill testing can allow people to make informed decisions about their consumption prior to taking any drug.
- Pill testing can change behaviour with more people choosing to discard the drug or change the way in which they take it.
- Pill testing creates an opportunity for conversations about harm reduction, counselling and support services between drug users and testing staff. ‘Recreational’ drug users rarely make contact with health services about their drug use. These brief interventions can identify and support people away from problematic consumption patterns.
- Results of testing are often published on internet sites (such as pillreports.net or partyflock.nl), so consumers can actively avoid purchase of drugs that may be especially dangerous.¹²
- Pill testing can eliminate any false sense of security.¹²
- Pill testing can help detect new, potentially dangerous substances and provide timely and valid data about illicit drug markets. This is particularly useful for emergency services¹⁶ and can provide an early warning system.
- Components of tested substances change over time, suggesting pill testing influences the black market.
- Determining the compounds in a drug that has caused harm after someone has consumed a drug is of limited benefit to that person if they have had a significant adverse reaction or even death. Offering pill testing services is a way to attract people to a harm reduction intervention that has a high degree of credibility and does not stigmatise people who use drugs.

Concerns about pill testing:

- It is claimed to lend the appearance of safety or 'send the wrong message' but in reality, the pills remain illegal and potentially harmful. *Effective messaging that having your drugs tested does not make them safe or legal is essential to people knowing potential risks.*
- On site testing is fast and easy but not always accurate. *This is dependent on the type of testing available.*
- On site testing can be limited to what they can test for. It is more difficult to detect contaminants or other compounds without sophisticated laboratory testing. *This is dependent on the type of testing available.*
- On site testing may not be able to detect new designer drugs, such as NBOMe. *This is dependent on the type of testing available as some may be able to test for similar compounds to ascertain drug class.*
- On site testing cannot test for concentration of drugs, only their presence. *This is dependent on the type of testing available as some may be able to test concentration.*
- Drug sellers may view the service as an opportunity to have their products tested prior to distribution. *There is no evidence that this is or has happened in any service offering globally.*



Evidence summary

Research into pill testing is at an early stage and no studies have fully tested if there is an overall reduction in harm beyond abstinence.

Most evidence comes from data about changes in attitudes and self-reports of changes in behaviour and intention to consume. The focus and goal of pill testing is to reduce harms, not necessarily increase abstinence. Reduction in harm is more difficult to quantify than measuring abstinence. Increasing education and awareness, connecting people with support services and on the spot counselling can and does prevent harm.^{15,17,18}

To run a successful service, co-operation is needed by police and health services and venues (similar to the understanding that exists regarding not arresting people with possession of heroin in the vicinity of a Supervised Injection Centre).

Impact on use

Criticisms that testing availability encourages people to take drugs are not supported by evidence.¹⁹ Research has demonstrated that the presence of a pill testing facility does not encourage those who do not use drugs to begin drug use.^{12,19,20}

Results from an evaluation of Zurich's drug checking service showed no increase in the frequency of consumption of recreational drugs over the years.²¹

This aligns with findings in 2003 that reported access to a drug checking service resulted in restricted consumption among ecstasy users.²¹

An early study in the Netherlands reported that, if the pill contained what the participant expected (in most cases MDMA), then there was no change in behaviour. However, if the pill did not contain what they expected, many respondents chose not to take the pill.²²

A report from the *Checkit!* program in Austria reported that 50% of people self-reported that the results of the test affected their consumption. Most users reported that they would wait for a result before taking the drug and when presented with a 'bad' result, two thirds said they would not consume the substance and would inform friends.²³

Impact on harm

In countries where drug testing exists, deaths due to recreational pills at festivals or events offering pill testing have not been reported.

In the UK, after the first pilot drug safety checking trial at a large music event in 2016, testing agency The Loop reported a 95% decrease in the number of drug-related hospital admissions compared with the previous year.²⁴

While this number is significant, it cannot be certain that the testing service had specific impact as there was no opportunity to control for other variables. A number of possible explanations for this reduction include: raised awareness of contaminants; increased knowledge and awareness leading to earlier presentation to emergency support services (paramedics/welfare support); and, the possibility of almost blanket coverage of harm reduction advice due to the presence of the Multi Agency Safety Testing (MAST) and word of mouth.²⁴

Pill testing in Australia

Pill testing was trialled in Australia in 2018 and 2019 at the *Groovin' the Moo* festival in the ACT.

In 2018, 129 people presented at the facility with 85 drug samples presented for testing. MDMA comprised 50% of all substances tested. Of concern were two items detected for the first time in the ACT: a novel psycho-stimulant NBOME; and, a cathinone n-ethylpentylone similar to a substance implicated in fatalities in New Zealand.²⁵ Five patrons were observed discarding their drugs after testing.

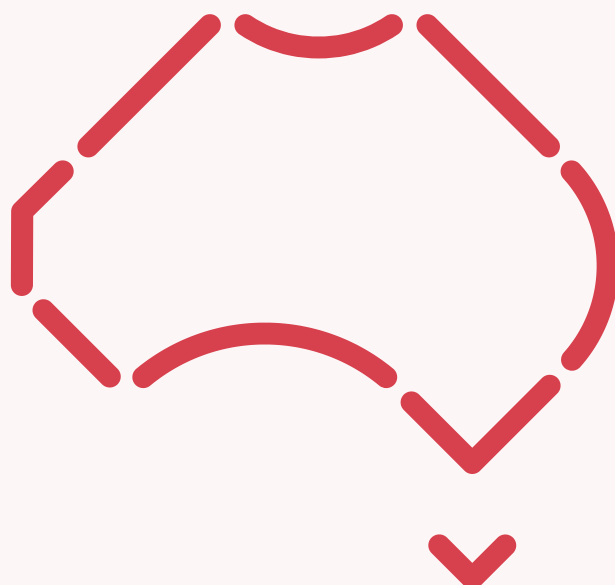
In 2019, 234 people presented at the facility with a total of 171 samples presented for testing.

As per 2018, MDMA was the most prominent substance identified and to a lesser extent cocaine, ketamine and methamphetamines. Of the 171 samples, seven samples containing n-ethylpentylone were identified and patrons were alerted to the dangers of this substance. After learning about the potential harms from the substance, all seven patrons were observed discarding the drugs into the amnesty bin provided.²⁶ Health warnings and safety information were provided to all patrons who presented at the service.

Acceptability of pill testing in Australia

A 2018 survey of 851 Australians who reported using psychostimulants and/or hallucinogens and attending licensed festivals or clubs demonstrated that nearly all (94%) would use an on-site pill testing service if it was available.

Eighty-five per cent of respondents reported they would use a fixed-site external service to test pills if one was available. Respondents were prepared to wait for the results of pill testing with 80% reporting they would wait for up to an hour for their results and 93% were willing to pay up to \$5 per test (68% were willing to pay up to \$10 per test). Nearly all (94%) would not use the service if there was a possibility of arrest and two thirds wouldn't use the service if individual feedback was not provided.²⁷



International examples

Several European countries (Austria, The Netherlands, Spain, Portugal, Switzerland, Luxembourg and France) have implemented pill testing programs to various degrees.

The Netherlands' implemented a stationary service due to the level of acceptability of drug testing, the high number of people who use the service and the sheer numbers. An important aspect of the Netherlands model is that results are incorporated into the Drug Information Monitoring System national electronic database which is updated weekly and used to monitor trends and help inform policy and practice.¹⁶

Pill testing services in England are provided by The Loop, a not for profit that introduced pill testing to nightclubs in 2013 and then to music festivals in 2014. The Loop initially used a 'back of house' model, but in 2016 it introduced on site testing, which is done by experienced volunteer chemists with a brief intervention for participants.

Pill testing in New Zealand has been running with the support of volunteers through KnowYourStuffNZ since 2014 (using equipment provided by the New Zealand Drug Foundation).

A full profile of drug checking services published by researchers at UNSW, NDARC and DPMP (2017) can be found [here](#).

ADF position

- Further trials of pill testing are warranted in order to ascertain its effectiveness at music festivals in Australia, where illicit pills and tablets are likely to be consumed.
- Trials should use analysis and consultation models prioritising brief interventions and pathways to support.
- The trial should be performed by trained analysts using sophisticated technology to ensure the most accurate analysis and results are achieved.
- The trials should collect detailed data to ensure evaluation is accurate.
- Attendees at music events where pill testing takes place must be informed of its limitations and reminded that drug use always carries a risk of harm.
- Pill testing trials should be accompanied by police, health services and event organiser support. The legal status of pill testing trials should be clear.
- Where possible, the results of pill testing should be fed into drug monitoring programs.

It's important to note that the Alcohol and Drug Foundation views pill testing trials as part of a range of measures to prevent and minimise alcohol harms.

References

1. Ventura M, Noijen J, Bücheli A, Isvy A, van Huyck C, Martins D, et al. *Drug checking service good practice standards*. Health Programme of the European Union.
2. Pill Testing in the ACT ACT Health [Internet]. n.d. Available from: health.act.gov.au/pilltesting.
3. Ritter A. Six reasons Australia should pilot 'pill testing' party drugs. *The Conversation* [Internet]. 2014 November 11. Available from: theconversation.com/six-reasons-australia-should-pilot-pill-testing-party-drugs-34073.
4. Camilleri M, Caldicott D. *Underground pill testing, down under*. *Forensic Science International*. 2005;53-8.
5. Kriener H, Billeth R, Gollner C, Lachout S, Neubauer P, Schmid R. *An inventory of on-site pill-testing interventions in the EU*. Lisbon: European Monitoring Centre for Drugs and Drug Addiction 2001.
6. Johnston J. *The Party Drug Initiative* Australian Drug Foundation [Internet]. 2005 December.
7. The Loop. *The Loop 2018* [Available from: wearetheloop.org/about-the-loop].
8. Know Your Stuff NZ. *Our Service 2018* [Available from: <https://knowyourstuff.nz/about-us/our-service/>].
9. Pidd H. *Clubbers warned of overdose risk from super-strength ecstasy*. *The Guardian* [Internet]. 2016 January 12. Available from: theguardian.com/society/2014/nov/28/clubbers-warn-overdose-risk-from-superstrength-ecstasy-mdma
10. European Monitoring Centre for Drugs and Drug Addiction. *European Drug Report*. Lisbon: European Monitoring Centre for Drugs and Drug Addiction; 2015.
11. United Nations Office on Drugs and Crime. *The challenge of new psychoactive substances*. Vienna: United Nations Office on Drugs and Crime; 2013.
12. Brunt T. *Drug checking as a harm reduction tool for recreational drug users: opportunities and challenges*. 2017.
13. Foxcroft DR TA. *A Cochrane Database of Systematic Reviews*. Cochrane; 2011.
14. Barratt MJ, Ezard N. *Drug checking can track the nature and size of discrepancy between self-report and actual drugs consumed*. *Addiction* (Abingdon, England). 2016;111:558–9.
15. Brunt T, Niesink R. *The Drug Information and Monitoring System (DIMS) in the Netherlands: Implementation, results, and international comparison*. *Drug Testing and Analysis*. 2010;621–34.
16. Butterfield RJ, Barratt MJ, Ezard N, Day RO. *Drug checking to improve monitoring of new psychoactive substances in Australia*. *Medical Journal of Australia*. 2016;204(4):144–5.
17. Groves A. 'Worth the test?' Pragmatism, pill testing and drug policy in Australia. *Harm Reduction Journal*. 2018;15(1):12.
18. Trans European Drugs Information (TEDI) workgroup. *Factsheet on drug checking in Europe*. 2011.
19. *European Drug Report 2016: Trends and Developments*. Luxembourg; 2016.
20. Benschop A, Rabes M, Korf DJ. *Pill testing, ecstasy and prevention: A scientific evaluation in three european cities*. 2002.
21. Hungerbuehler I, Buecheli A, Schaub M. *Drug Checking: A prevention measure for a heterogeneous group with high consumption frequency and polydrug use – evaluation of Zurich's drug checking services*. *Harm reduction*. 2011;8(16).
22. Van de Wijngaart G, Braam R, de Bruin D, Fris M, Maalste N, Verbraeck H. *Ecstasy in het uitgaanscircuit*. Utrecht. 1997.
23. Kriener H, Schmid R. *Check your pills. Check your life. ChEcki! High quality on-site testing of illicit substance: Information counselling and safer use measures at raves in Austria*. *Drug Text* [Internet]. 2005. Available from: drugtext.org/library/articles/kriener.htm.
24. Measham FC. *Drug safety testing, disposals and dealing in an English field: Exploring the operational and behavioural outcomes of the UK's first onsite 'drug checking' service*. *International Journal of Drug Policy*. 2018.
25. Makkai T, Macleod M, Vumbaca G, Hill P, Caldicott D, Noffs M, Tzaneti, S, et al. *Report on Canberra GTM Harm Reduction Service*. 2018.
26. Spruit IP. *Monitoring synthetic drug markets, trends, and public health*. *Subst Use Misuse*. 2001;36(1-2):23–47.
27. Barratt M, Bruno R, Ezard N, Ritter A. *Pill testing or drug checking in Australia: Acceptability of service design*. *Drug and Alcohol Review*. 2018;37:226–36.