

# Report on the ACT GTM Pill Testing Pilot: a Harm Reduction Service

Prepared by the Safety Testing Advisory Service  
At Festivals and Events (STA-SAFE) Consortium

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The STA-SAFE consortium consists of:

Harm Reduction Australia

Australian Drug Observatory, Australian National University

Noffs Foundation

DanceWize, Harm Reduction Victoria

Students for Sensible Drug Policy Australia



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## RECOMMENDATIONS & FUTURE DIRECTIONS

1. That further front-of-house pill testing, as part of a commitment to harm reduction services, be supported in the ACT.
2. That appropriately sized and signed facilities for front-of-house pill testing be negotiated with all relevant stakeholders in a timely manner prior to events.
3. That Australian state and territory governments engage in discussions with their relevant ACT counterparts on the introduction of medical and peer based front of house pill testing services.
4. That Australian state and territory governments utilise the significant practical and strategic knowledge of the STA-SAFE consortium in their deliberations on the introduction of pill testing.
5. That the federal government take a national leadership role in advancing a mixed-model approach to pill testing as a harm reduction service across Australia, where front-of-house testing services are delivered on site at music events and festivals, as well as at fixed locations, such as participating public health, drug and alcohol and needle and syringe programs.
6. That all levels of government work together with the STA-SAFE consortium to establish a national pill testing evaluation framework, as well as an ongoing public early warning system (EWS) of all drug test results.

## ACKNOWLEDGEMENTS

As with all breakthroughs in public policy, the amount of effort, commitment and work, from all persons and entities involved, leading up to the pilot cannot be under estimated.

We would like to thank the following people for their support and assistance:

- Those people at the festival who came forward and voluntarily signed waivers, utilised the testing service, participated in the data collection and showed enormous good will for the pilot. This report could not have been written without their co-operation.
- The staff on the day – the chemists, the medical clinician, the peer-based alcohol and other drug (AOD) counsellors and the data collectors – all did a tremendous job with limited preparation in a difficult environment.
- The support of the Groovin’ The Moo (GTM) promoters and the University of Canberra in providing access to the grounds and facilities to allow the pilot of a ‘proof of concept’ to take place. It was a significant step and we acknowledge their professionalism, courage and support.
- The ambulance and police officers who provided support beforehand, and on the day, to facilitate a seamless pilot.
- The many people who provided advice, assisted in locating professionals who had specialised skills to assist, opened doors when we most needed help, and did the essential administrative and other jobs wherever possible. There are too many people to name but their help was invaluable.
- The many pill testing and harm reduction advocates for their commitment and drive over many years to see pill testing introduced in Australia.
- The Bruker Corporation in loaning our consortium a machine to use at the festival, and for remaining firm in their support despite various delayed starts for the pilot.
- All the relevant ACT government officials, political advisors and ministers for their on-going support to work through policy and political issues, on their merits, in a constructive and positive manner.
- Those in the wider community who were willing to show public support for a pilot and for the many who had private discussions over the merits or otherwise of such a harm reduction service within their jurisdiction, and further afield.

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# OVERVIEW AND RATIONALE FOR THE PILOT

## INTRODUCTION

Despite repeated drug related incidents occurring for many years at music festivals across the country, some of them fatal, governments of all persuasions have continued to prioritise a punitive supply reduction strategy for festivals. More often than not, governments have increased the number of sniffer dogs and police presence, despite the lack of evidence for, anecdotal or otherwise, to support the effectiveness of this approach in reducing the prevalence of drug use or drug related harms occurring, and some evidence that an increased police presence including sniffer dog operations could increase harms (NSW Ombudsman, 2006).

Even as families, festival goers, promoters, as well as public health and law enforcement officials, were becoming more concerned with the continuing drug-related incidents occurring at festivals, governments have continued to resist calls for pill testing as a harm reduction intervention.

Agitation for change has been emerging across the wider community reflected by significant discussion of the issues by the media and in particular social media.

Some political organisations such as the Greens Party and the Reason Party, and some individual members of parliaments from all parties, including the Liberal and Labor parties, have called for change that prioritises health outcomes over a law and order approach. The impact of strong vocal support from family groups such as Family Drug Support and people attending festivals also cannot be underestimated.

Within this growing push for change, the STA-SAFE consortium was conceived and began its efforts to introduce pill testing, as a harm reduction intervention, in Australia – an intervention based on the best evidence and experience available internationally, as well as local insight.

The model developed by the consortium was a front-of-house service with a strong level of medical, health and peer representation in both direction and delivery.

After a number of delayed starts at festivals in Canberra, the STA-SAFE consortium was able to secure the strong and publicly announced support of the ACT government, including ACT health and police, the University of Canberra (the venue where the GTM festival was being held), and the GTM promoters (Cattleyard), for a pilot of pill testing at the 29 April 2018 GTM festival in Canberra.

The introduction of an officially sanctioned pill testing harm reduction service in Australia has taken over a decade of commitment (Camilleri and Caldicott, 2005).

In conducting the pilot no funds were requested or provided by the ACT government, or any other government, for the development or delivery of the service. The pilot was completely self-funded by members of the consortium and their supporters along with significant pro-bono assistance provided by legal and other professionals.

## VISION

After reviewing the existing evidence and models of pill testing from around the world, the vision of the STA-SAFE consortium became very clear:

To obtain government, landowner and festival promoter support for a sanctioned ‘front-of-house’ pill testing program at one of the larger upcoming festivals in the ACT<sup>1</sup>.

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<sup>1</sup> “Front of house” pill testing refers to a service that operates for the benefit of patrons at festivals, involves peers as equal partners and works co-operatively with all engaged emergency management team stakeholders, including police and health services. Back of House testing refers to a service that provides information gathering for law enforcement, but may also be available for other engaged emergency management team stakeholders, but not patrons, and the results may or may not be displayed for the benefit of patrons at festivals.

## FRAMEWORK

Pill testing<sup>2</sup> involves using analytical instruments to determine the chemical content of drugs to be consumed by people at venues and festivals, as well as other locations, with the purpose of reducing the harms associated with consuming those drugs.

Typically, the person about to consume the drug brings it for testing and is provided with an on-site analysis by people trained in the use of the testing equipment. The person is also provided with information about the risks of consuming the substances identified, education of harm reduction strategies to mitigate that risk, and other support services including health and community service referrals.

Evidence of the results of pill testing show that it can be a significant and positive intervention. Some people decline to use a drug when a chemical analysis shows the dangerous or unexpected compounds contained in the pill and when it is presented to them in both a clinical and community service-based manner by peers and other experts (Kriener and Schmid, 2002).

Some research has shown that less than one percent of MDMA users access medical treatment (Global Drug Survey, 2017). Further, some existing pill-testing programs offer a range of harm reduction services that extend well beyond testing drugs (Benschop, Rabes and Korf, 2002). These two factors open the possibility of expanding and enhancing access to health and welfare services for people attending festivals in Australia. This approach mirrors the engagement already seen at needle and syringe programs and drop-in centres where people have an opportunity to talk about their drug use and other issues with health and community service professionals.

In the case of pill testing, for many it is their first engagement with these professionals and serves as an opportunity to receive information about how to minimise risks and receive specific education about what may actually be in the pills they are intending to consume. As a harm reduction service, pill testing, offers the unique opportunity to reach a group of primarily young people who do not usually access traditional alcohol and other drug (AOD) services.

One of the consequential outcomes of existing pill-testing regimes around the world has been a consumer-led safety movement for the quality of drugs being sold and consumed. For example, test results that have shown high levels of impurities in the drugs have been shown to alter the nature of the market and modify drug-taking behaviour in Europe (Energy Control, 2011).

It was also evident to the STA-SAFE consortium that for the pill testing program to be as successful as other harm reduction initiatives in Australia, the involvement and inclusion of peer group representatives were required as equal partners at all stages of the process.

As a result, the framework agreed and undertaken by the STA-SAFE consortium to deliver the pill testing service involved the preparation of detailed documentation on both the evidence base and the operational protocols of the proposed harm reduction service. Concurrently, there was engagement in a series of discussions with key ACT government ministers and other relevant stakeholders.

Accordingly, as the value of the STA-SAFE consortium proposal became more evident to ACT government officials, the STA-SAFE engagement approach focused on key ACT government departments, particularly health and police, the festival promoters and local AOD agency representatives.

## AIMS

Pill-testing in some other contexts has primarily been an intelligence gathering exercise for health and law enforcement services with communication to the public limited to warnings about 'dangerous' substances – effectively a 'need to know' basis. This model is often referred to as 'back of house'. In contrast, the STA-SAFE model for this pill testing pilot was informed by a harm reduction approach that seeks to empower patrons with knowledge about the substances they are taking while also providing important data to those tasked by government to deliver harm reduction interventions including targeting supply chains and drug dealing.

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<sup>2</sup> Pill testing is also known as drug checking

More specifically the overarching aim of the service is to save lives by:

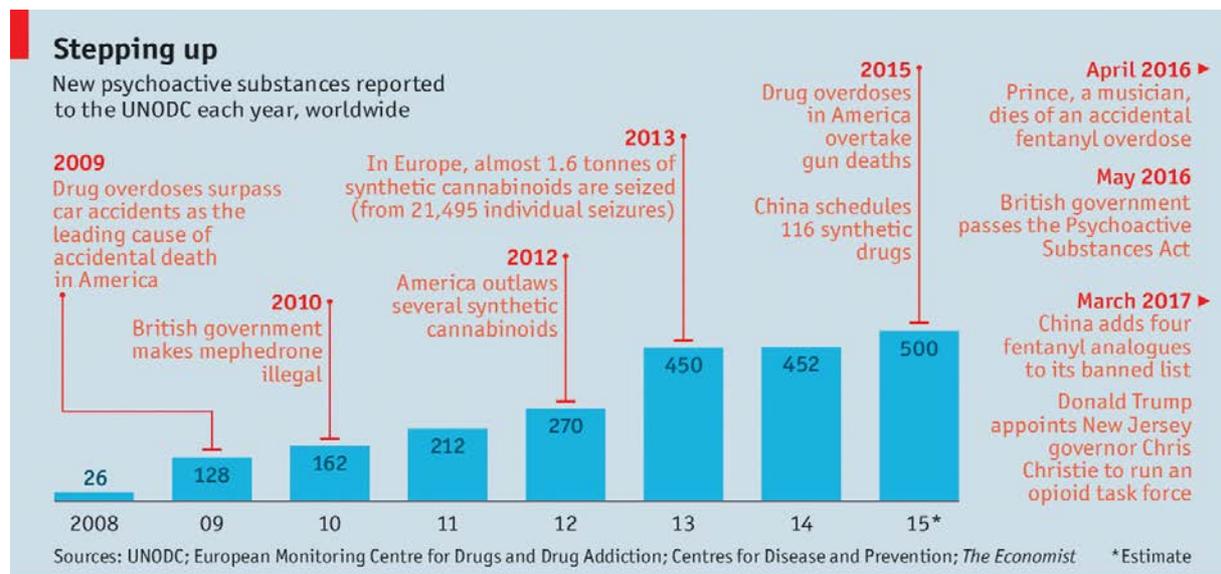
- Providing the opportunity for people to be informed and consider a range of options before determining whether or not to consume an illicit drug;
- Reducing the number of people potentially requiring an ambulance call out, as well as attending hospitals, police holding cells and courts as a result of consuming unknown drugs - which in turn delivers a range of individual, family and community based positive outcomes; and
- Obtaining a range of street samples for detailed testing that allows for community health warnings on new compounds and assists law enforcement intelligence on illegal drug manufacturing and importations in Australia.

## CURRENT SITUATION

### AUSTRALIAN DRUG USE DATA

Australia's illicit drug market is part of a complex global and domestic network of suppliers, traffickers and dealers where profits are high and the aggregate risks are low, particularly for those who control these networks. Countries like Australia, with a relatively high disposable income and high consumer demand, are attractive destinations for a range of illicit drugs. In the past decade the demand for psychoactive substances has fuelled significant growth in the manufacture of new synthetic drugs as shown in Figure 1.

Figure 1: Growth in synthetic drugs globally and selected government responses.



Economist.com

Source: *The expanding universe of synthetic drugs, The Economist May 20th 2017*

In Australia, the best population wide data on drug use patterns is the National Household Survey based on 23,772 respondents who were interviewed in 2016. Eight and half million (or 43%) of people aged 14 and older reported using an illicit drug at some point in their lifetime (AIHW, 2017a: 53). Overall eleven percent of people reported they had tried ecstasy at some point in their lives with the number increasing to 19% of those aged between 20 and 29.

The most commonly used illegal drugs in the 12 months prior to the interviews were cannabis (10%), cocaine (2.5%), ecstasy (MDMA, 2.2%) and meth/amphetamines (1.4%) (AIHW, 2017a: xi). MDMA use was higher for those aged 14-19 years (3%) and 20-29 years (7%).

Males and those in their twenties are more likely to report illicit drug use in the previous 12 months. Ecstasy tends to be used less frequently than cannabis and meth/amphetamine (AIHW, 2017a: 59) with 51% of MDMA users reporting they only used ecstasy once or twice a year. Just under two percent of users reported that although they wanted to, they could not stop or cut down on their use of ecstasy (AIHW, 2017a: 60).

In the 12 months prior to the interviews, half of ecstasy users (51%) used pills or tablets. Another third said they used capsules while 1 in 10 (11.6%) used crystal. Those aged under 30 were more likely to use capsules than people aged 30 or older (AIHW, 2017a: 66).

The most common reason that an illicit substance was first used was curiosity (65%), followed by use or offers by friends or family (50%) (AIHW, 2017a: Table 5.61); these were the main two reasons for both recent and ex-illicit drug users. For those who continue to use, the two most common reasons were 'to enhance experience', or 'improve mood or stop feeling unhappy'. Of all the age groups 14-19 years were most likely to be influenced by friends and family (AIHW, 2017a: 74). For those who had never used the most common reason was 'not interested' while only one in three were concerned about legal consequences.

Twenty-seven percent of recent ecstasy users aged 18 years and over reported high or very high levels of psychological distress and 26% reported they had been diagnosed with or treated for a mental illness (AIHW, 2017a: 95). Thirty-nine percent of respondents believed the most appropriate response for someone found in possession of small quantities of ecstasy was referral to treatment or an education program (AIHW, 2017a: 119).

## ACT DRUG USE DATA

The ACT has a slightly higher proportion of persons self-reporting recent use of ecstasy<sup>3</sup> however the estimate is based on a small sample size. Males report higher levels of ecstasy use in the previous 12 months.

**Table 1: Used ecstasy in past 12 months, aged 14 years or older, 2016 (percent)**

Sex	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Aus.
Males	2.4	2.5	2.8	3.4	*2.1	*3.1	*3.1	*3.7	2.6
Females	1.6	2.5	1.5	3.0	*1.5	*1.8	*1.2	*1.3	2.0
Persons	2.0	2.5	2.2	3.2	1.8	*2.4	2.2	2.6	2.3

\* Estimate has a relative standard error of 25% to 50% and should be used with caution.

**Source: Australian Institute of Health and Welfare 2017b.**

More detailed data are publicly available from specific studies of particular groups who use illicit drugs. Although these studies are based on small non-random samples, these people have higher levels of engagement with the drug throughout the year. Data from the ACT 2017 Ecstasy and Related Drugs Reporting System (EDRS) found all of the 100 people interviewed had used some form of ecstasy in the past 6 months with the most common form being pills and the least common powder (Butler, 2017). Twenty-nine percent reported that ecstasy was their drug of choice. Twenty-eight percent said they used ecstasy weekly or more often.

In the ACT around half of those interviewed reported that availability of pills (51%) and capsules (52%) was very easy and between 25 and 29% said purity was high while 14 and 20% said it fluctuates. The majority of users said they bought it from friends (53%) followed by dealers (29%). Australian ecstasy pills are amongst the most dangerous in the world (Project Know, 2016).

<sup>3</sup> Ecstasy is a street term for press pills meant to contain MDMA

**Table 2: Availability and purity of ecstasy in the ACT, 2016-2017, (percent)**

	Pills	Capsules	Powder	MDMA crystal/rock
Current availability (n)	(70)	(79)	(14)	(60)
Very easy	51	52	36	35
Easy	34	41	43	57
Difficult	13	6	14	8
Very difficult	1	1	7	0
Current purity (n)	(69)	(77)	(14)	(61)
Low	13	16	14	5
Medium	38	46	64	46
High	29	25	21	39
Fluctuates	20	14	0	10

**Source: Australian Drug Trends 2017, Tables 8-11.**

The majority of ACT EDRS participants in 2017 were poly drug users. Three-quarters reported that the last time they used ecstasy or other psychostimulants, they had used other drugs at the same time. The drugs most commonly used in combination with psychostimulants were ecstasy, tobacco, alcohol, and cannabis. Of those who reported having experienced a stimulant overdose in the past 12 months in 2017 (21%), just under half (46%) attributed it to ecstasy.

When asked about their last location of use ACT respondents in 2017 reported the two most common places were nightclubs (39%) and live music events (12%); eight percent said their last use was at a 'rave'.<sup>4</sup> Twenty-four percent said they had at some time in their life purchased a drug online, while 19 percent said they had purchased the drug online in the past year.

## OPERATIONAL REVIEW

The purpose of the pilot was to effectively test a 'proof of concept'. At the outset, many questions required answers within the Australian context:

- Was it possible to actually deliver an on-site 'front of house' chemical testing program at a festival in Australia?
- How efficacious was the chemical testing?
- Would patrons use the facility?
- Would law enforcement be able to operate in a way that allowed them to undertake their duties but also to allow pill testers to effectively operate the facility?
- Was it possible to provide brief intervention AOD counselling and referrals to patrons?
- Was there a capacity to test orphan samples to assist on site emergency services including health and law enforcement?
- Was it possible to collect operational data that would assist stakeholders in future planning?

<sup>4</sup> That is, a multi-day music festival with patrons camping on site.

## GOALS

The key goals of the operational review were to:

- Assess the operational processes of the service with the view to providing recommendations for improvement.
- Obtain key, de-identified aggregated data on patron profile and experiences.
- Collect data on the outcome of the testing in regard to substances detected, discarding behaviour of patrons and future intended use, and any adverse outcomes, and;
- Gather feedback from volunteers and stakeholders on their experience.

## DATA COLLECTION STAGES AND ASPECTS FOR FUTURE CONSIDERATION

Prior to their entry to the harm reduction service individuals were appropriately advised of the conditions of the pilot. If they agreed to those conditions, chemical tests and data collection were undertaken. No adverse events occurred that were linked to the pill testing service. In overall terms, the pilot demonstrated that:

- i) such an intervention is possible; and
- ii) people were willing to use the services, despite the limitations associated with the timelines, physical infrastructure and lack of promotion strategies on-site during the festival.

There were effectively four stages in the process of implementing the pilot at the event and a final stage of collation and reporting of data for the review. Each stage is described below. However, there are important aspects of the pilot that were effectively pre-operational that directly affected the operational activities. These are discussed before the first stage of the point-of-service delivery.

### PRE-PILOT ACTIVITY

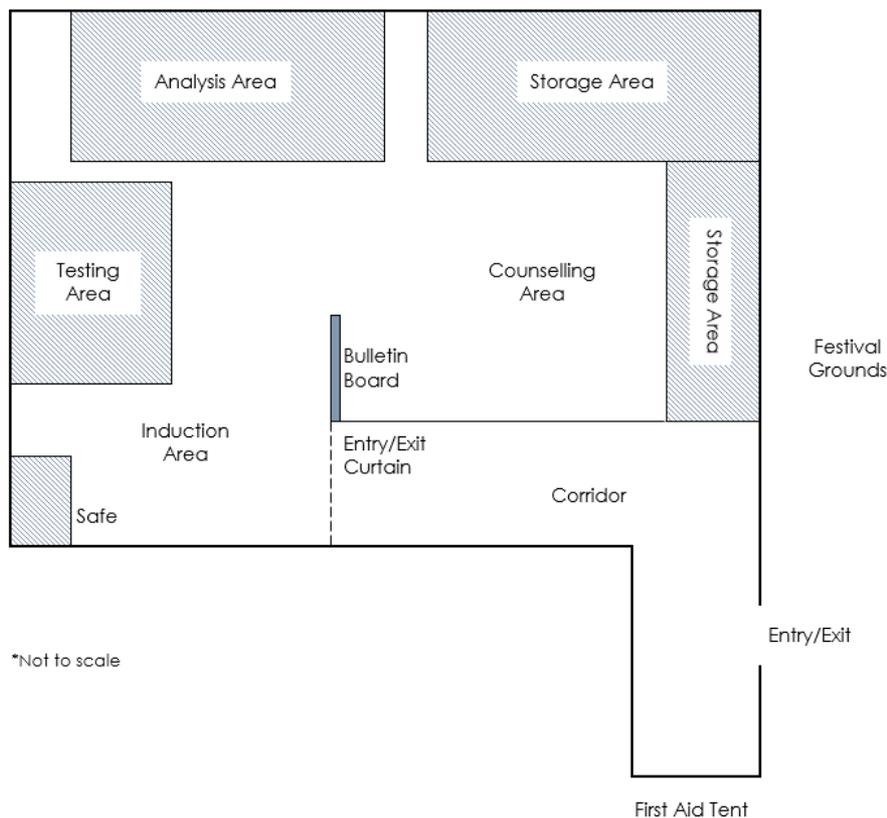
As the final approval to conduct the pilot was only provided 2 to 3 days before the event, there was very little time to test the standard operating procedures for the service. Despite there being extensive overseas knowledge of comparable pill testing services and significant experience delivering other harm reduction services on site at Australian festivals within the deployed team, concerns remained regarding the limited knowledge of the physical working environment, and the extent to which patrons would know and feel 'safe' enough to use the service.

As requested by STA-SAFE, the 'tent' provided on the day was next to the health tent with a common entrance. It had been designed so that it would not be possible to see if patrons entered the pill testing area or health tent. At the front of the entrance, STA-SAFE were required to have a security guard present. When asked for feedback seven patrons said that they found the presence of the guard off-putting. From a risk mitigation perspective, having a guard is probably sensible to assist in the rare event of a person becoming aggressive, however perhaps rather than being in a formal uniform they could be dressed more casually so as not to deter patrons. Further, once pill testing services at festivals are rolled-out, scaled-up, and commonplace, all emergency service stakeholders including security staff will have the opportunity to meet in advance for service briefings, providing the opportunity to elect the most suitable security staff member for that post.

On entering the shared 'health' entrance, if the patron was seeking the pill testing facility they were directed by security staff to turn right and then left down a long corridor (approximately 10m) to the formal entrance to the pill testing service (see Diagram 1). The corridor was made of 2m high, stabilised, opaque partition walls. STA-SAFE staff had erected a temporary screen visually blocking the formal entrance into the testing area and, because of the demand at particular times, this marked the starting point for people queuing to be inducted into the testing area.

There was one known instance of two journalists holding cameras above the 2m partition walls and taking photographs of people waiting in the queue. One incident was identified immediately and both STA-SAFE and the promoters directed that the photographs be deleted. The second incident was not identified until photographs were printed by some News Corp outlets. STA-SAFE were made aware that at least one of the people was identifiable (despite attempts to conceal faces) and had complained to ACT health. Following direct negotiations by STA-SAFE with News Corp and the journalists, the photograph was withdrawn as media entry by the promoter restricts any photography in health precincts by journalists, and breached Cattleyard's media policy.

**Diagram 1: Pill testing area\***



Once patrons entered the screened area, every patron was greeted by a peer-based harm reduction worker and asked to volunteer their phone, which was held in a safe for the duration of their time in the testing area to guard against photographs, and video and sound recordings. To our knowledge this was not breached inside the tent. But the issue of queuing outside the entrance due to space constraints inside the tent posed a significant potential risk of privacy being breached, although this did not appear to be a major consideration for patrons using the service. In addition, the weather became wet and very cold and patrons were left with no cover in the corridor when queuing. In feedback on service improvement fourteen patrons indicated that more space was required.

### **STAGE 1**

Prior to the testing patrons were assessed for eligibility and advised of the safety conditions of entry. The conditions are provided in Appendix 1 & Appendix 2. These were printed and laminated onto large sheets and hung outside in the entrance and then inside the induction area where eligibility assessment took place. A key condition that had been identified by police regarded possession of quantities of drugs that were legally 'deemed' to be of trafficable quantities. Patrons were advised that if they produced such amounts of drugs they would be refused service. Nobody was refused service for this reason however it is not known if on reading these conditions anyone in the queue outside left prior to assessment.

Although supply level testing did not occur during the pilot the law in this area is complex. If MDMA is taken as an example, then the level is around 10g and no-one exceeded this weight. For other substances the supply threshold can be much lower. For example, for fentanyl it is around 7.5mg. A situation could arise where the weighing and testing reveals a trafficable quantity. Although this did not happen at the pilot it could in future, detailed protocols for dealing with this situation need to be further developed in conjunction with law enforcement.

Another key condition identified by legal and insurance advisors was the need for a waiver form to be signed by all patrons. The wording of the form was drafted with input from a medical clinician and from a pro-bono lawyer who assisted in this task. A copy of the form is provided in Appendix 3. The form and its contents were explained, and all patrons had to sign it prior to entering the testing area. Signed forms were locked away immediately in a safety box and later transported to HRA offices for secure keeping. Legal advice indicates that the waivers need to be securely stored for seven years and then destroyed. Of those who entered the assessment area no-one refused to sign a waiver and leave at this point.

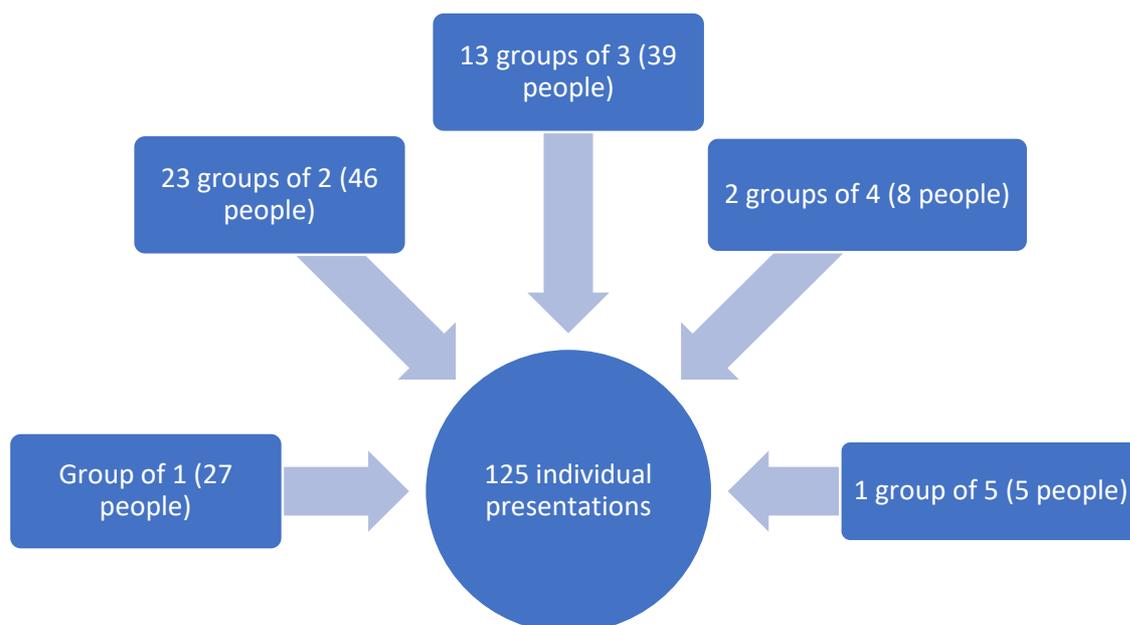
As part of assessing a patron for eligibility, a peer-based harm reduction worker asked a few questions and undertook a visual assessment to make sure the patron was not intoxicated and therefore unable to provide consent in any meaningful way. On two occasions patrons were refused entry due to intoxication (one based on the visual signs of intoxication, namely pupil dilation and bruxism, and the other based on their inability to correctly reference the date). On 11 occasions the harm reduction worker sought a second opinion as to whether the patron presenting had the capacity to sign a waiver (including if they appeared intoxicated from alcohol or said they were intoxicated with alcohol) and requested the on-site medical clinician to make a further assessment. In total 129 people were assessed (this included police/on-ground health staff who brought two orphan samples for testing) and the two people who were turned away.

The stage 1 induction area of the tent was not covered due to the limited space inside the actual tent being required for the chemical testing equipment and the brief intervention area. This was less than ideal with rain and increasing cold. During the 12-hour period 3.6 millilitres of rain fell and there were some localised thunderstorms. The temperature dropped to 2.9C. This again highlighted the need for more covered space and depending on the season and location, heating may need to be factored into local planning.

Accessing the lockable safe after the testing was completed also created some time delays, particularly when groups entered the stage 1 area for eligibility assessment. It became evident that on leaving many patrons had forgotten they had 'stored' their phones in the safe and had to be reminded to collect them. Designing the layout for future services will need to take this into account particularly if numbers accessing the service are significantly higher or the exit point is designed to be separate from the induction point. Consideration of whether phones need to be 'confiscated' on entry should be reviewed on a case by case basis.

A key issue going forward is how to deal with groups. There were in total 39 groups (excluding ineligible and orphan samples) with 98 people (see Diagram 2). Groups ranged from 2 to 5. There were 27 patrons (22 percent) who came on their own and a further 46 came in groups of 2 (36 percent). Thirty-nine were in groups of 3 (31 percent), eight in groups of 4 and five in groups of 5.

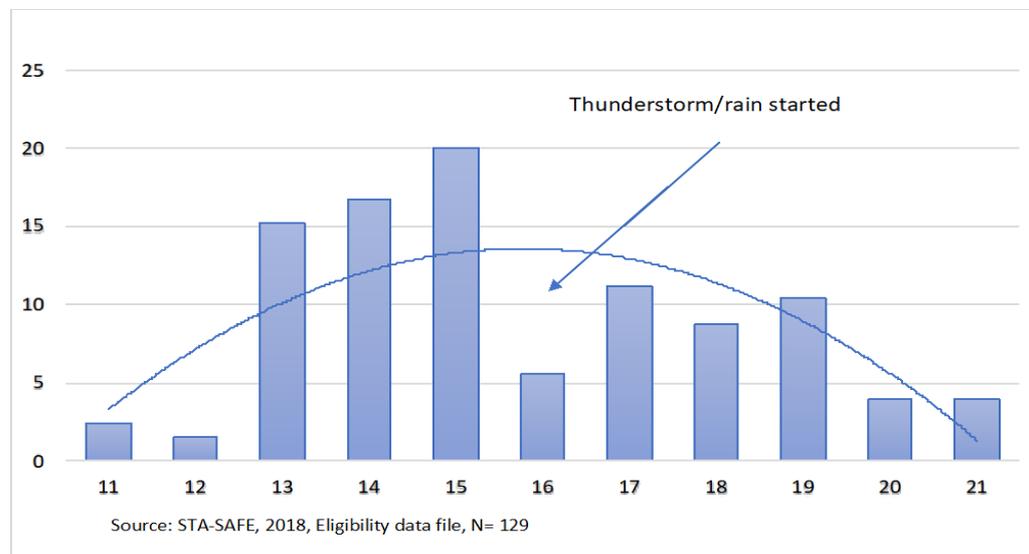
**Diagram 2: Number of groups and individuals who entered the service**



**Source: HRA STA-SAFE Eligibility Data File, 2018, N=125**

Figure 2 shows when patrons accessed the service. The event started at 11.00am and there were three individuals who accessed the service in the first hour. Most of the activity was concentrated in two peaks: 1:00pm-3:00pm and 5:00pm-7:00pm. There was a noticeable drop-off around 4.00pm which was when the weather changed; whether this is causally related cannot be determined. In the last two hours of the service 10 people were assessed as eligible. Effectively there were patrons coming through every hour.

**Figure 2: Percent of people accessing the facility by hour of day**



Because of the space constraints a decision was made that all members of a group could enter if they were assessed as eligible and signed the waivers, even though they may not have a sample for testing. These people were ‘exposed’ to what occurred during the testing and analysis process however counselling was limited to only those people who provided a sample. Data collection was restricted to this sub-group of 83. Two issues that would provide useful information to inform future operations are a) the time delay between eligibility assessment and testing and b) how many people in the ‘groups’ had a sample tested. From the way the data were collected it was not possible to work out who provided samples and hence allow for matching of groups to the test results. What is evident is that in a number of groups, more than one patron had drugs for testing.

Given that the data from both the national household survey and the EDRS indicates that many young people are influenced in their drug taking by their family and friends, and that they often source drugs from friends, not engaging those people in the group who didn’t provide a sample in a brief harm reduction intervention is potentially a missed opportunity and needs to be carefully considered in the future. It is also reasonable to assume that some (if not all) of the ‘group members’ are likely to consume drugs even though they themselves are not presenting any drugs for testing. It should be possible to design a protocol that identifies this group and both counsels and collects data from them.

## STAGE 2

Prior to the testing the patron with the drugs was asked a short pre-test set of questions (see Appendix 4 for the HRA pre-test data collection sheet). A unique identifier was allocated to the patron at this point that was then used to link to their test results and their responses to the post-test collection sheet. This enabled the three pieces of data to be linked anonymously. In regard to the pre-test data collection, 84 patrons responded. However, this was because two patrons in the first group to enter the site were interviewed but only one of them presented drugs for testing.

An important innovation, not previously deployed to the knowledge of the STA-SAFE team, was a ‘catch-and-release’ system design to track any medical outcomes of those having their drugs tested. The patron who was handling the drugs was given a hospital identification (ID) wristband with the tested sample’s unique identifier number written on it. The wristbands were of soft vinyl dual-laminate material with tamper resistant clips in orange colours. Patrons were advised that they could discard the wristband or store it in their pocket or bag, however if they wore it and had an adverse reaction later on, the ID would inform the ambulance or hospital that they wanted their test results to be accessed to assist in treatment.

Overwhelmingly, patrons responded positively and many choose to keep them in their pockets. None of the wrist band were rejected; it is not known if they were later thrown away.

The ACT hospitals and ambulance staff were advised of the wristbands and did not report on any patrons with wristbands presenting at hospitals or requiring ambulance services during or immediately after the festival. ACT ambulance (ACTAS) were able to provide some basic data on presentations to this festival. In 2018 there were 85 presentations to the first aid provider and ACTAS. This does not include presentations to the additional support services provided by Red Frogs and Headspace. On these, 20 came directly to ACTAS and the majority were for intoxication. ACTAS reported the intoxication as a result of either alcohol or MDMA however this relies on their professional judgement and self-reports from patrons. Three patrons were transported to hospital and two were for intoxication and the third was not drug related; ACT health advised neither of the two intoxicated patrons had undertaken pill testing. ACT health were unable to provide information on these patrons once they entered the hospital environment. Data from ACTAS indicated there were 30 presentations to ACTAS in 2016 and 34 in 2017 as compared to 20 in 2018.

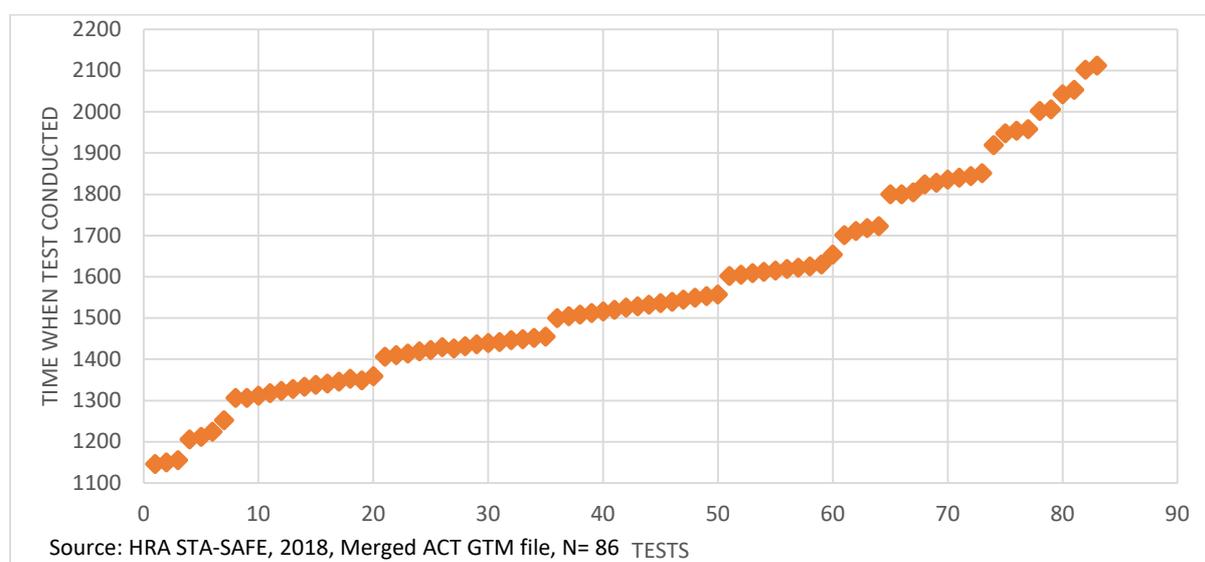
In the pill testing area, once the patron presented the drugs onto a sheet the chemist proceeded to scrape off a portion of the drug for testing purposes. Once submitted, no product, or part of product is ever returned to the submitter. At this point the chemist made a technical decision as to whether there was a sufficient amount to undertake meaningful tests. Once the test was complete the drugs were disposed of in a locked bin that contained bleach. At the end of the evening the bins were appropriately disposed of as chemical waste under the supervision of qualified chemists.

The original intention of STA-SAFE had been to hand the samples across to police for further testing, partly to validate the in-field tests with further laboratory testing, as well as to identify individual drug profiles, provenance and inform intelligence on illicit drug markets. However, for the purposes of the pilot, ACT Police advised that it was best for them not to be formally involved in the actual testing of the drugs. Nonetheless, as supply reduction is part of an overall harm minimisation approach, it should be considered in future services. Collecting samples across festivals and over time for more detailed analysis has the potential to improve intelligence holdings in a relatively cost-effective manner.

In total 85 'samples' were provided but two were deemed to not be of sufficient amount for testing. Also two of the 85 samples were 'orphan' samples; one brought by law enforcement and one from on-ground health staff. They are included in the analysis of the test results but are not included when analysing patron responses. The effective usable number of test results was 83.

Figure 2 showed the flow of data in terms of the total number of people eligible to enter the testing area by hour. Figure 3 shows the volume of testing over the 12-hour period. It should be possible to measure elapsed time between entry and testing to determine operationally if the concentration of people had an effect on the length of time to undertake the tests. It was not possible to assess this in this pilot but it may provide important data for managing the flow of groups through the service in the future.

**Figure 3: Chemical tests conducted over the 10-hour period, n=83**



### STAGE 3

While patrons were waiting for the results they were directed to a brief Intervention with a peer-based AOD counsellor and asked eight questions (see Appendix 5). Twelve people at this point declined to answer the questions although three did provide open-ended feedback on the service. This effectively reduced the post test data to 75 patrons. The tent size meant that some groups were waiting for test results, some people were being counselled and others were answering questions all in the close confines of a three by six metre tent. None of this was ideal as ‘conversations’ could be overheard and could have had a range of unknown effects on patrons. A 6 x 6m space is the ideal minimum-sized space for conducting a front-of-house pill testing service.

### STAGE 4

When the chemical testing of the drugs was completed the results appeared on a screen attached to the testing equipment. Using the unique identifier number, the patron was identified and called to the table with the drug testing equipment. At this point a chemist and the medical clinician explained what the results were to the patron (and others if a group). Due to the constrained space, others, not party to this particular discussion, could overhear what was being said. Although there did not appear to be any concerns, and the vast majority of people expressed an understanding of the physical conditions and the delays, the unintended consequences of these factors cannot be measured.

For the purposes of classifying and reporting the result, The STA-SAFE team borrowed the same front-facing system used by ChEck IT! In Austria (European Monitoring Centre for Drugs and Drug Addiction, 2018). ChEck IT! is one of the world’s most highly regarded pill testing services, based in Vienna. Test results were assigned to one of three different colours (see Diagram 3). All ‘red’ results and some ‘yellow’ and ‘white’ results were displayed for all patrons, on similarly coloured pieces of paper, pinned to a notice board to alert patrons of what may be circulating around the festival.

**Diagram 3: Classification and reporting of detected substances**

WHITE:	Where a substance was analysed, and was the same as what the patron anticipated that it might be
YELLOW:	Where a substance was analysed, and there was a significant disparity between the result and what the patron anticipated that it was
RED:	Where a substance was analysed, and revealed the presence of a substance known to be associated with increased harm / multiple overdoses/ death Where a substance was analysed and returned an ambivalent result, or functional groups known to be associated with significant harm

It was obvious that patrons did look at the board as they waited and there were discussions around what was being ‘discovered’. One of the patrons responding to the open-ended questions suggested that a printout of the tests should be provided to take away and another patron suggested that photographs of the substances should be pinned to the board so that patrons could more easily identify different types. The experience on the night suggested that photographs would not be helpful, as the vast majority of samples looked the same; further, take away print outs may be used outside the testing facility as drug quality ‘endorsements’; and, as discussed later in the report, the results are complex and should not be disseminated without a chemist, clinician, and harm reduction worker to explain the substances being ‘identified’.

Patrons were advised of the amnesty bin in which they could discard their drugs should they choose to do so. It was a requirement of the police that the bins contain bleach so all the discarded drugs were immediately rendered inert. It was intended that the bin be placed in a discreet location with a person allocated to ‘observe’ and record the number discarded. There was simply no room in the tent to implement this model. There was also considerable nervousness about the perceived ‘risks’ around the bin so it was placed next to the chemist and medical clinician. However, this meant that discarding anything become a highly visible act.

As a result, only five patrons were observed discarding their drugs by STA-SAFE staff and this was early in the day. It should be noted that at the end of the event, numerous discards were seen in the vicinity of the medical precinct, but it is not certain whether this was a reflection on patron uncertainty regarding the amnesty bin. This part of the process needs to be carefully reviewed for any future service including whether immediately destroying the drugs is a sensible approach if further analysis of the drugs at a later stage might assist in signature profiling.

## STAGE 5

The final stage of the process involved the collection of all the various data collection materials which could then be compiled and analysed after the festival.

Due to the short time frame around approvals of the pilot and the potential risks of complicating the process with technology, the data collection was a manual process that later required data entry. Although this was manageable given the numbers, any future service design should consider whether the data collection could occur on a hand-held device. This would improve efficiency and confidentiality, although different protocols would be required to manage confidentiality and data security. However, engaging with patrons with a short interview/conversation may put some of them more at ease as well as sending a message that what they have to say is important. Open-ended comments often provide useful material to inform practice and the extent to which individuals are prepared to type in such data needs to be assessed.

Producing a datasheet of useable test results was time-consuming as the equipment produced an individual PDF file for each test. It would be more effective if the key data could be outputted to a spreadsheet for merging with the other data. However, the PDF files do contain important information in terms of the profile of the compounds that can be critical for interpreting results. In particular, the spectra can be retained and later matched to other spectra as they become available. This is important for building the spectra libraries globally to assist in drug identification and the development of early warning system capacity.

Bruker have advised that it is possible to produce such a spreadsheet but this needs to be programmed prior to the event. As the machine was collected in Sydney only two days before the festival the primary operational focus was on ensuring that the team were confident in how to conduct the tests, rather than on extracting data for later analysis. This highlights that timeframes between approval for the pilot and the delivery had unintended consequences that will need to be mitigated in the future. Any future service needs to establish how the data are stored in the Bruker machine and then develop the protocols for transferring and merging with the patron data for future analysis. Further discussion on the testing is provided below.

Although the allocation of the identity numbers worked well it was not entirely straightforward and needs to be thought through if a similar process of data collection is envisaged for future services. There were three cases where the identity numbers were not entirely clear which required a manual process of checking time data as well as some other validation data to determine the correct identity numbers. The key issue for the future is to ensure that the identity number on the eligibility and the data collection sheets is also the same one assigned to the tests; whether the process remains manual or on hand held devices the process needs to be factored in early.

## DRUG TESTING

The drug testing was undertaken by Fourier-transform infrared spectroscopy (FTIR) using an ALPHA II machine supplied on loan by the Bruker Corporation<sup>5</sup>. This is the technology used by *We Are The Loop* in the UK, and the drug consumption rooms in British Columbia. In reviewing the most common methods for testing illicit drugs Harper, Powell, and Pijl concluded that 'the best methods for point-of-care drug testing are handheld infrared spectroscopy, Raman spectroscopy, and ion mobility spectrometry; mass spectrometry is the current gold standard in forensic drug analysis' (2017:1). The cost and technical skill make it more challenging to implement mass spectrometry in a point of care environment like pill testing at a music festival.

Infrared spectroscopy (IR) is a highly discriminatory method and Harper, Powell and Pijl (2017:6) conclude that 'when reference spectra are available, most compounds can be unambiguously identified based on their IR spectra...it requires only a very small sample size in the range of milligrams or less. Additionally, samples

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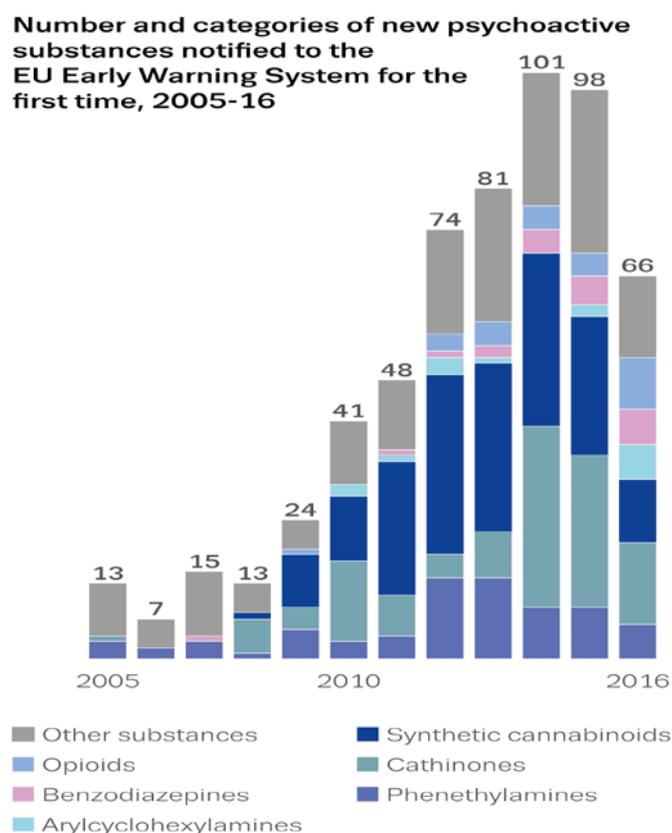
<sup>5</sup> See Monti (2007) for a discussion FTIR-ATR spectroscopy.

can be studied in virtually any physical state...'. The World Health Organisation has stated that 'infrared spectrum is not usually greatly affected by the presence of small quantities of impurities in the substance tested' (WHO, 1997). Interference from moisture can occur but as the samples at the festival were being tested immediately this was regarded as a low risk. Importantly, samples required little preparation, so this eliminates 'the possibility of sample contamination during sample preparation' (Monit, 2007).

IR is a presumptive test that is able to quickly identify compounds by comparing the spectrum of the substances with known spectra in a library/ies. Every compound has a unique spectrum – the key issue is whether the measured spectrum has been documented in the library. Where compound spectra are contained within the libraries, the IR technique also gives a score out of 1000 that rates the quality of the match to the measured spectrum. This information can be used to give a qualitative indication of purity.

A key issue is that if there is no spectrum documented then the FTIR will automatically identify the closest match, hence low hit scores can be meaningless. As new synthetic drugs are constantly being produced it is critically important that there be on-going rapid testing to identify and then document these newly discovered 'unknown' compounds so that they can be added to the spectra libraries. Figure 4 shows the significant increase in the identification of new synthetic drugs as a result of forensic testing of samples. Pill testing has an important part to play in this documentation.

**Figure 4: Increasing numbers of synthetic compounds being documented**



**Source: European Monitoring Centre for Drugs and Drug Addiction, 2017**

An example of a test report is provided in Figure 5. Each compound is assessed against the full range of libraries. The FTIR-Spectra uses the Attenuated Total Reflectance (ATR) technique and accesses the nine most up-to-date spectral libraries against the Query Spectrum of the substance being tested. Bruker reports that 'comprehensive spectral data from the following compound classes included: polymers, monomers, additives, plasticizer, fillers, building materials, cosmetics, excipients, organic and inorganic chemicals, biochemicals, fibres, proteins, fatty acids, lipids, ingredients, natural products, silicon containing compounds, solvents, pesticides, pollutants, semiconductors, dyes, paints, coatings, food, food additives, minerals, lubricants, surfactants, kidney stones, pharmaceuticals, and drugs'. The library includes the Tictac Drug Library which is commonly used by healthcare and law enforcement as well as the pharmaceutical industry (TicTac Communications Ltd, 2015).

The ALPHA II machine reports a rank ordering of the top three library compound matches to the query spectrum along with a score or measure of the quality of the match. This measure ranges from 0 to 1000. The closer the number is to 1000 the better the match between query and library spectra and the more likely the substance being tested is correctly identified. Work conducted in preparation for the pilot showed that pure substances typically gave high match scores of over 750/1000. At the present time there are no national standards for Australia on the most appropriate matching criteria for FTIR unlike mass spectrometry where there are agreed analytical cut-offs (Makkai, 2000). In mass spectrometry the established cut-off level varies by drug type and importantly Australia has different cut-off levels from other countries depending on the drug type.

## PROCESS

There were a range of forms in which substances were submitted – there were 41 capsules, 25 pills, 10 in powder form and six were crystals (and one unclassified). There was also a range in the weights from 45 to 1107 mg. As already mentioned two presentations were of such a small weight they were deemed unusable resulting in 83 useable samples for testing.

When the substance is submitted, it is weighed (gross weight) and photographed then a small sample is obtained from the pill, capsule or powder. This is placed in scientific weighing paper and then transferred to the FTIR machine for spectrum measurement. A background spectrum is acquired immediately before each sample spectrum to ensure the data acquired relates to the sample submitted. The query spectrum is then matched to the library spectra and a ranked list of scored matches is produced that aims to identify the major component. Further analysis of the query spectrum is theoretically possible using subtraction of the major component and re-matching to the library, or by performing a regression analysis to obtain the best match to a user specified number of components. During the pilot, hardware issues did not allow for this additional analysis of minor components. However, this could be achieved in future with only small changes to testing methods and time required. Alternatively, retained spectra could be re-analysed after the event.

An example of what can be provided from FTIR analysis is shown in Figure 5 for sample GTM001 presented as MDMA. This identifies MDMA as a component with a low hit quality score (359) relative to that typically obtain for pure substances (>750). The analysis also suggests alternative matches to MDEA and safrole of lower hit quality score. The sample and library spectra for these matches are shown in Figure 6. Following the pilot, a mixture analysis was conducted on the sample spectrum to provide further information about minor components and from this a qualitative estimate of sample composition. This mixture analysis identified dimethyl sulfone as a likely component as shown in Figures 7 and 8. Dimethyl sulfone is a common filler or cutting agent and is generally considered non-hazardous. As noted, hardware problems precluded the use of mixture analysis on the day. If mixture analysis is to be undertaken on site in the future, then further technical work is required.

The FTIR analysis is shown in Figure 9 for sample GTM004 that was presented as MDMA. This identifies MDMA as a component with a high hit quality score (839) similar to that typically obtain for pure substances (>750). The sample and library spectra for these matches are shown in Figure 10. Following the pilot, mixture analysis of this sample spectrum did not identify a second significant component.

In several cases the FTIR analysis uncovered unexpected components. The GTM062 sample presented as 'ketamine' was identified as the antihistamine drug triprolidine with moderately high hit quality score as shown in Figures 11 and 12. The GTM074 presented as 'speed' was identified as the cathinone drug *N*-ethylpentylone with a high hit quality score as shown in Figures 13 and 14.

Figure 5: Example of a single component analysis of sample GTM001 presented as 'MDMA' that indicates MDMA as a component with low score with other ranked matches MDEA and safrole.

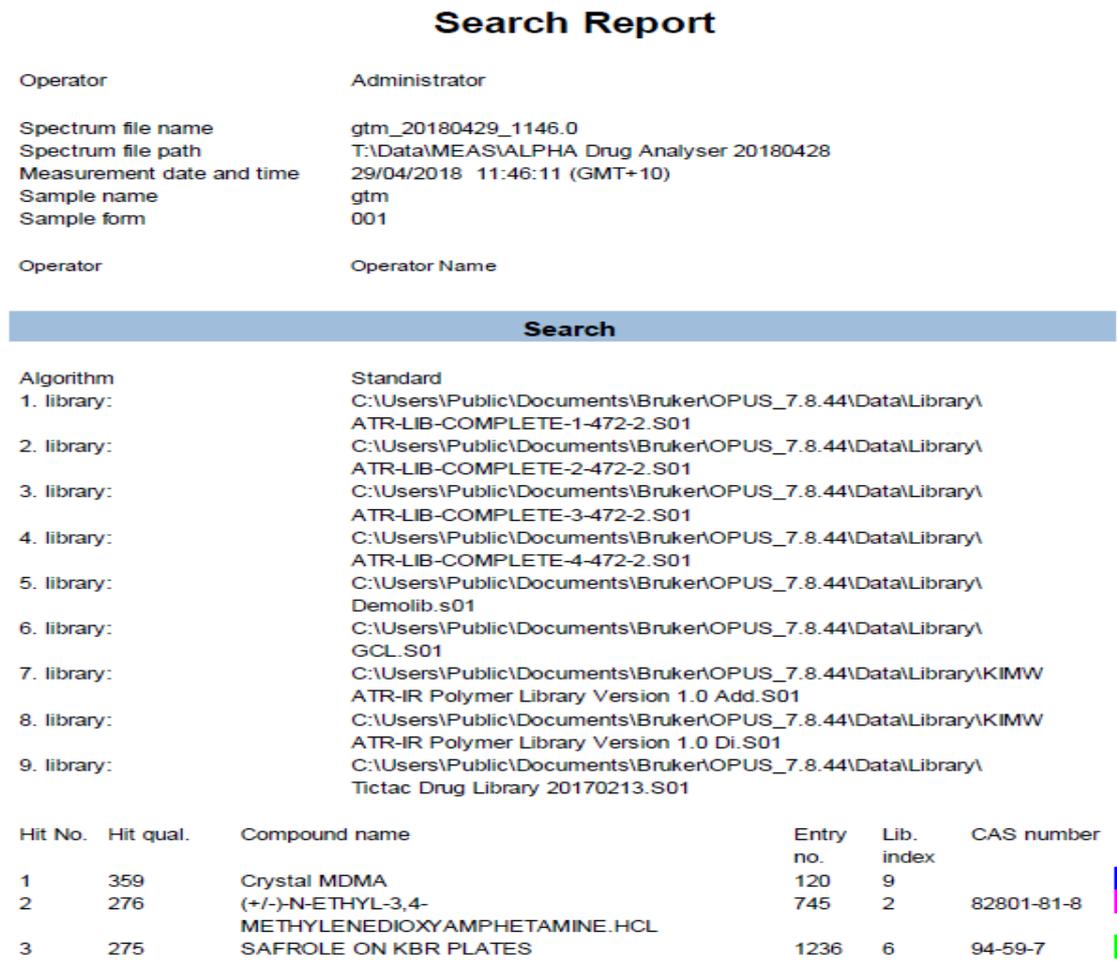
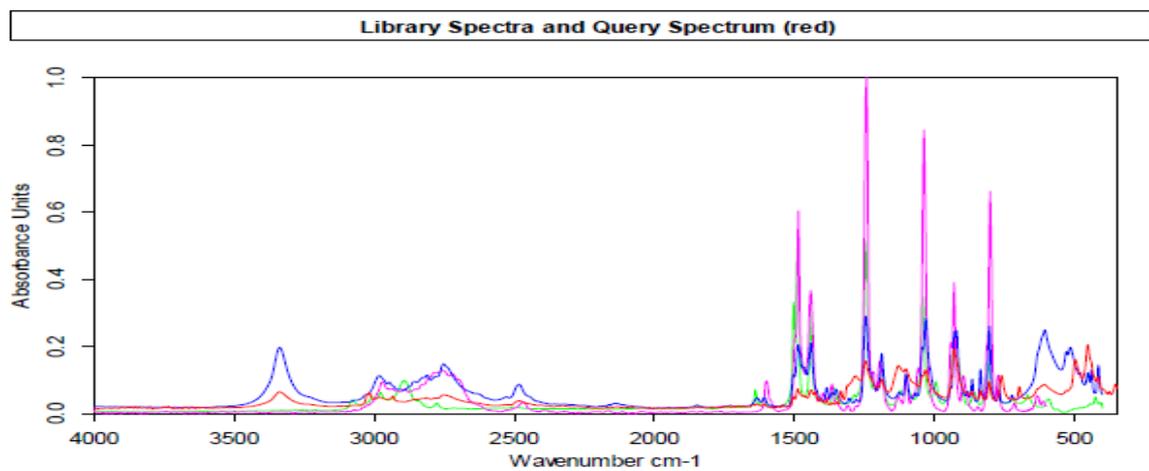
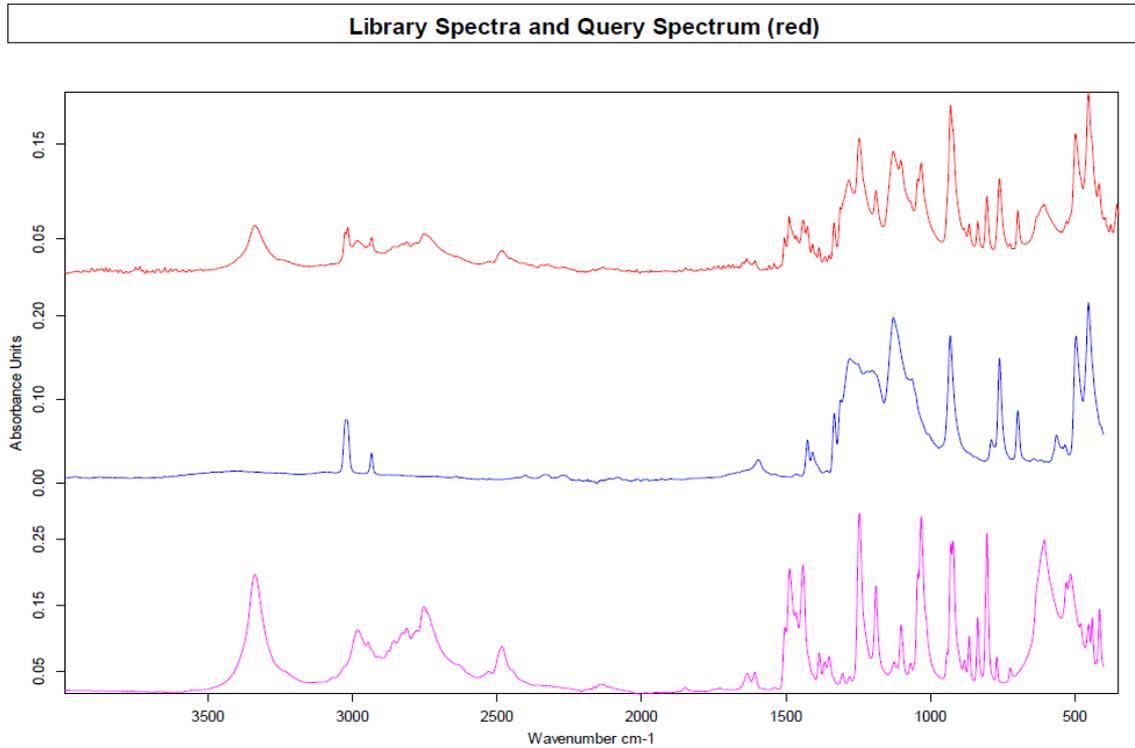


Figure 6: Example of a single component analysis of sample GTM001 showing the IR spectrum of the sample (red) and overlaid IR spectra for MDMA (blue), MDEA (pink) and safrole (green).



**Figure 7: Example of a mixture analysis of sample GTM001 conducted after the pilot showing dimethyl sulfone (blue) as a second component of the sample (red). Dimethyl sulfone is a common filler or cutting agent. It is considered non-hazardous.**

No.	Content [%]	Compound name	Entry no.	Lib. index	CAS number
1	57.7	Dimethyl sulfone	128	12	
2	42.3	Crystal MDMA	120	12	



**Figure 8: Example of a mixture analysis of sample GTM001 conducted after the pilot showing the sample spectrum (red), the composite spectrum derived from MDMA and dimethyl sulfone (blue) and the residual spectrum (green).**

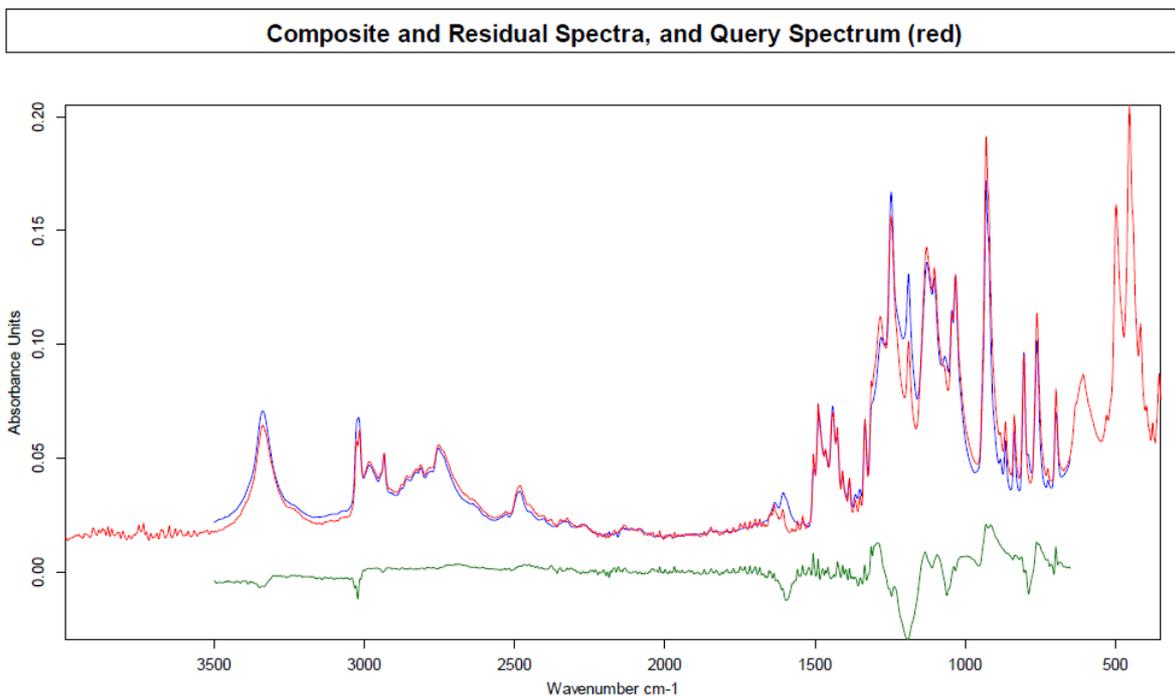


Figure 9: Example of a single component analysis of sample GTM004 presented as 'MDMA' that indicates MDMA as a component with high score with other ranked matches MDEA of low score. Subsequent mixture analysis did not identify a second significant component.

### Search Report

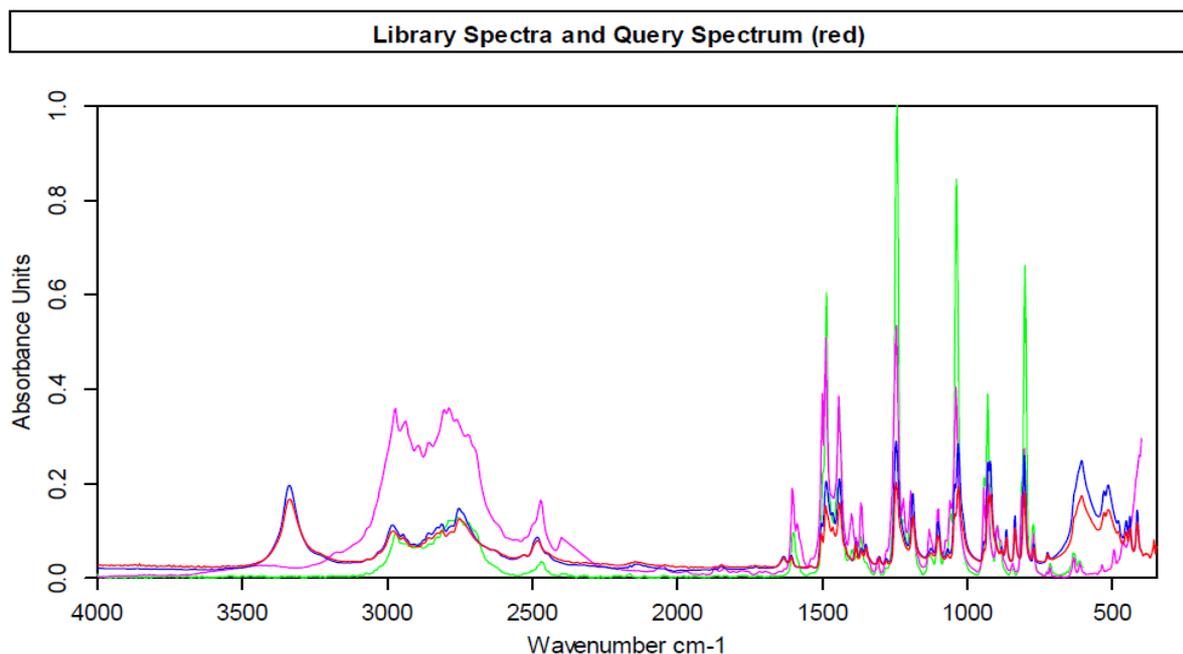
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 Spectrum file name gtm\_20180429\_1205.0  
 Spectrum file path T:\Data\MEAS\ALPHA Drug Analyser 20180428  
 Measurement date and time 29/04/2018 12:06:08 (GMT+10)  
 Sample name gtm  
 Sample form 004  
 Operator Operator Name

#### Search

Algorithm Standard  
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 2. library: C:\Users\Public\Documents\Bruker\OPUS\_7.8.44\Data\Library\ATR-LIB-COMPLETE-2-472-2.S01  
 3. library: C:\Users\Public\Documents\Bruker\OPUS\_7.8.44\Data\Library\ATR-LIB-COMPLETE-3-472-2.S01  
 4. library: C:\Users\Public\Documents\Bruker\OPUS\_7.8.44\Data\Library\ATR-LIB-COMPLETE-4-472-2.S01  
 5. library: C:\Users\Public\Documents\Bruker\OPUS\_7.8.44\Data\Library\Demolib.s01  
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 7. library: C:\Users\Public\Documents\Bruker\OPUS\_7.8.44\Data\Library\KIMW ATR-IR Polymer Library Version 1.0 Add.S01  
 8. library: C:\Users\Public\Documents\Bruker\OPUS\_7.8.44\Data\Library\KIMW ATR-IR Polymer Library Version 1.0 Di.S01  
 9. library: C:\Users\Public\Documents\Bruker\OPUS\_7.8.44\Data\Library\Tictac Drug Library 20170213.S01

Hit No.	Hit qual.	Compound name	Entry no.	Lib. index	CAS number
1	836	Crystal MDMA	120	9	
2	269	3,4-METHYLENEDIOXYETHYLAMPHETAMINE HCL IN KBR	1569	6	
3	268	(+/-)-N-ETHYL-3,4-METHYLENEDIOXYAMPHETAMINE.HCL	745	2	82801-81-8

Figure 10: Example of a single component analysis of sample GTM004 showing the sample (red) and overlaid IR spectra for MDMA (blue), MDEA (pink and green).



**Figure 11: Example of a single component analysis of sample GTM062 presented as 'ketamine' that indicates triprolidine as a component with moderately high score, with other ranked matches ketamine and doracryl brilliant red as low score. Subsequent major component (triprolidine) spectrum subtraction and re-matching identified ketamine as a minor component. Triprolidine is an antihistamine drug.**

## Search Report

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Spectrum file path	T:\Data\MEAS\ALPHA Drug Analyser 20180428
Measurement date and time	29/04/2018 17:11:22 (GMT+10)
Sample name	gtm
Sample form	062
Operator	Operator Name

### Search

Algorithm	Standard
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2. library:	C:\Users\Public\Documents\Bruker\OPUS_7.8.44\Data\Library\ATR-LIB-COMPLETE-2-472-2.S01
3. library:	C:\Users\Public\Documents\Bruker\OPUS_7.8.44\Data\Library\ATR-LIB-COMPLETE-3-472-2.S01
4. library:	C:\Users\Public\Documents\Bruker\OPUS_7.8.44\Data\Library\ATR-LIB-COMPLETE-4-472-2.S01
5. library:	C:\Users\Public\Documents\Bruker\OPUS_7.8.44\Data\Library\Demolib.s01
6. library:	C:\Users\Public\Documents\Bruker\OPUS_7.8.44\Data\Library\GCL.S01
7. library:	C:\Users\Public\Documents\Bruker\OPUS_7.8.44\Data\Library\KIMW ATR-IR Polymer Library Version 1.0 Add.S01
8. library:	C:\Users\Public\Documents\Bruker\OPUS_7.8.44\Data\Library\KIMW ATR-IR Polymer Library Version 1.0 Di.S01
9. library:	C:\Users\Public\Documents\Bruker\OPUS_7.8.44\Data\Library\Tictac Drug Library 20170213.S01

Hit No.	Hit qual.	Compound name	Entry no.	Lib. index	CAS number	
1	745	TRIPROLIDINE HCL IN KBR	117	6	6138-79-0	
2	206	KETAMINE HCL	910	2	1867-66-9	
3	161	DORACRYL BRILLIANT RED X-4GS 300%	979	4		

**Figure 12: Example of a single component analysis of sample GTM062 showing the sample (red) and overlaid IR spectra for triprolidine (blue), ketamine (pink) and doracryl brilliant red (green). Note the absence of the strong diagnostic peak at 1700 cm<sup>-1</sup> in the sample spectrum (red) that is clearly present in the ketamine spectrum (pink).**

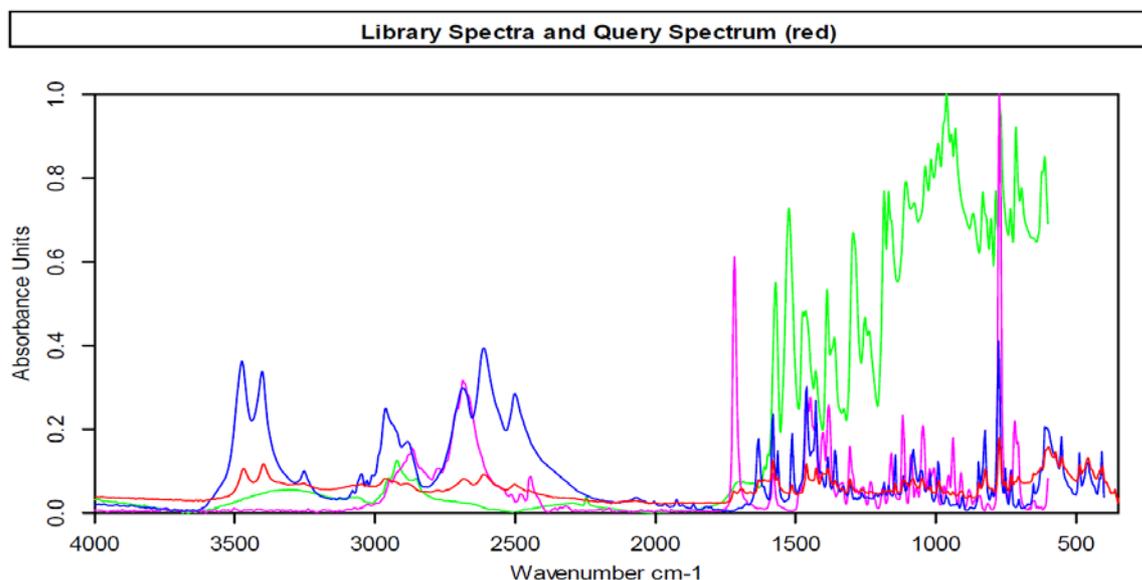


Figure 13: Example of a single component analysis of sample GTM072 presented as 'speed' that indicates *N*-ethylpentylone as a component with high score with other ranked matches pentylone and topanol M as low score. Subsequent mixture analysis did not identify a second significant component. *N*-Ethylpentylone is a cathinone drug that has been associated with fatalities and mass casualty events in other jurisdictions.

### Search Report

Operator Administrator  
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 Sample name gtm  
 Sample form 072

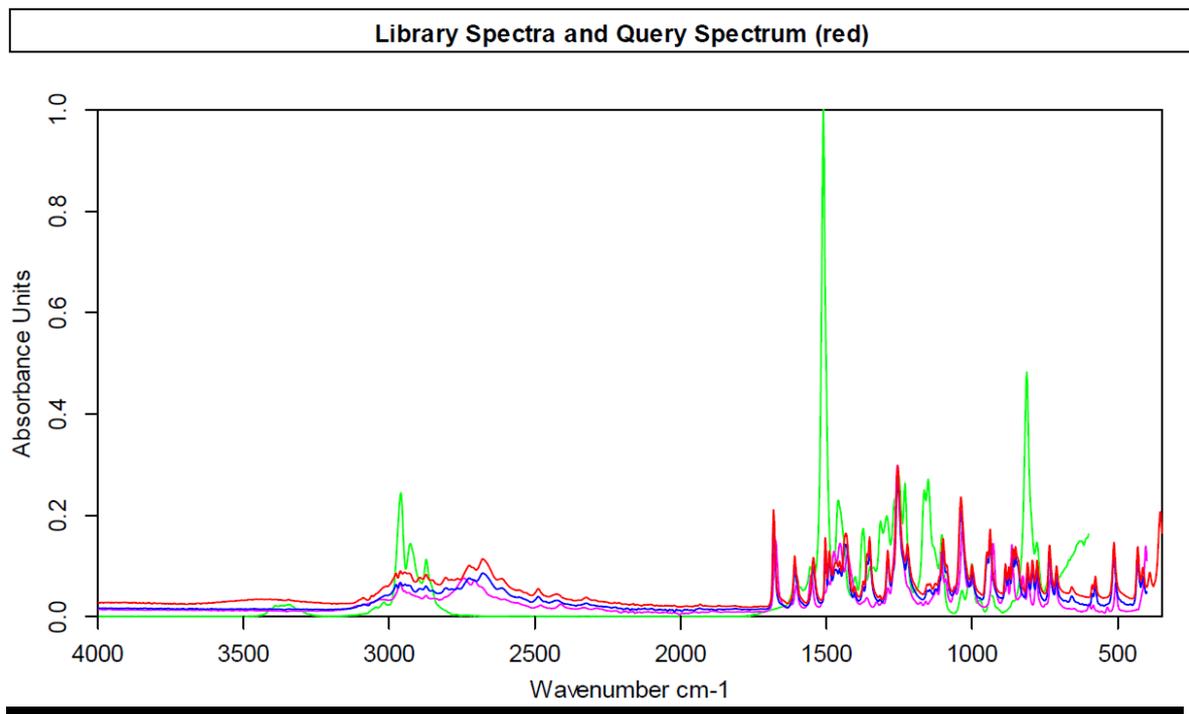
Operator Operator Name

#### Search

Algorithm Standard  
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 8. library: C:\Users\Public\Documents\Bruker\OPUS\_7.8.44\Data\Library\KIMW ATR-IR Polymer Library Version 1.0 Di.S01  
 9. library: C:\Users\Public\Documents\Bruker\OPUS\_7.8.44\Data\Library\Tictac Drug Library 20170213.S01

Hit No.	Hit qual.	Compound name	Entry no.	Lib. index	CAS number
1	919	N-Ethylpentylone	322	9	
2	244	Pentylone HCl	208	9	
3	214	TOPANOL M	3297	2	101-96-2

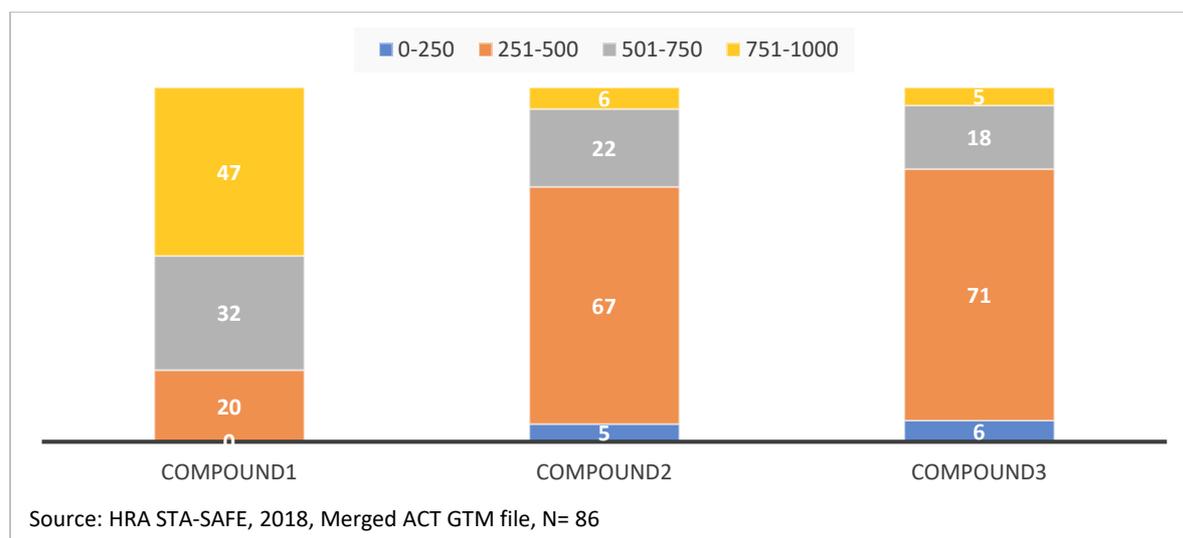
Figure 14: Example of a single component analysis of sample GTM072 showing the sample (red) and overlaid IR spectra for *N*-ethylpentylone (blue), pentylone (pink) and topanol M (green).



## RESULTS

As mentioned earlier, for each substance the machine calculates the top three compounds regardless of how poor the fit is to the spectra library. Of the 83 compounds identified as the top match, the intensity score ranged from 268 to 936; while for the second identified compound the intensity score ranged from 199 to 904 and for the third top ranked compound the score ranged from 154 to 817. Figure 15 shows the intensity measures grouped into quartiles or intervals of 250. It demonstrates the quality of spectrum matches declines noticeably from the first to third matched compound. The distributions highlight that compound 1 (the top match identified) is concentrated at the top end of the hit quality scale while compounds 2 and 3 are more likely to be distributed towards the lower end of the hit quality scale.

**Figure 15: Hit quality score distribution of top three compounds identified (n=83)**



Pure laboratory substances generally give scores over 750 hit quality; as a result, we have used this score as a cut-off or threshold, although some may regard it as conservative, to evaluate the results. However, there may be other critical compounds at low levels that the IR technique cannot detect. For this reason, experienced chemists and clinicians are important in on-site interpretation and explanation of the results to patrons and for post site analysis. It also highlights that printing out results and providing them to patrons is not a recommended approach.

Analysis found that 46% of the chemicals identified as the top compound met the cut-off and are likely of reasonably high purity. Of these, 32 were identified as MDMA, three were a filler or cutting agent, one was cocaine, one ketamine, one a cathinone drug (*N*-ethylpentylone) and one caffeine.

There were five instances where the second ranked compound had a hit quality score above the cut-off (>750). In each case this second match identified the same compound indicating that the libraries contained several different spectra for the same substance. There were four instances where the second and third ranked compounds had hit quality scores above the cut-off (>750). Again, these matches identified the same compound. There was no case of multiple hit quality scores above cut-off (>750) that identified different compounds.

For 53% of samples tested, none of the hit quality scores were above the threshold. This increased the uncertainty surrounding compound identification. This could arise due to the sample being an impure mixture of more than one compound, or due to the major compound not being included in the spectra libraries. Although hardware limitations prevented the use of mixture analysis or spectrum subtraction and re-matching on the day of the pilot, such an approach could be used in future to more closely evaluate sample composition where hit quality scores are low. An example of this approach is given above for GTM001. In this case the highest hit quality score was only 359 and identified MDMA as the major component (figures 5, and 6). Later mixture analysis conducted after the pilot identified dimethyl sulfone, a common cutting or filling agent, as the second component (figures 7 and 8).

## PATRON DATA

Patron data comes from two stages of the process – stage 2 which is the pre-test data collection and stage 4 which is the post-test data collection and counselling. Through the unique identifier these are linked to the chemical test results of the drugs patrons brought for testing. Table 3 shows the numbers who participated in each stage. As mentioned at the start of the pilot two people came as a group and both were interviewed but only one presented a drug for testing. An inspection of their responses found the first patron with the substance said they had used drugs previously while the second patron said this was their first time. The first patron said they thought the substance was MDMA and did not respond to the question on whether they were surprised by the testing results which found MDMA as a possible component with low hit quality score; the second patron also indicated they thought the drugs were MDMA and indicated they were very surprised by the results. Both said they had secured the drugs online. For the data analysis undertaken for this operational review the second patron has been excluded resulting in 83 patrons for the pre-test data. In terms of the drug tests two patrons did not provide sufficient quantities for analysis and there were two orphan samples. Post-test 74 patrons completed one or more of the post-test collection questions.

**Table 3: Number who participated**

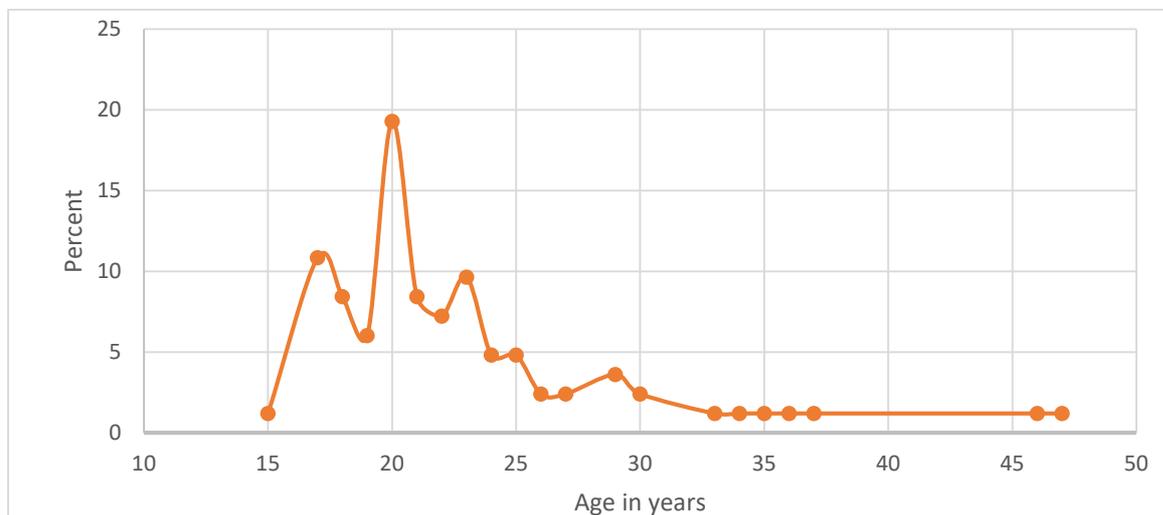
	Yes
Pre-test data collection	83
Drug tests	83
Post-test collection	74

Source: HRA STA-SAFE, 2018, Merged ACT GTM file, N=86

## PATRON GENERAL PROFILE

In terms of gender one-third indicated they were female (31%), two-thirds male (67%). One patron did not want to answer and none indicated non-binary or a different identity. The age range was from 15 to 47 years; the mean age was 23 years with 45% of patrons aged 20 or younger.

**Figure 16: Age distribution (n=82)**



Source: HRA STA-SAFE, 2018, Merged ACT GTM file, N= 86

Ninety-three percent reported this was not the first time they had used illegal drugs. When asked how they got these drugs the majority reported from their friends (55%), followed by their dealer (28%). One patron did not answer the question and seven percent said they had found them. Of those who had found them, all had used before.

Postcode data was collected from each patron. All of the postcodes except for one from Victoria were located in the ACT (52%) and NSW (47%). The largest postcode cluster (2617, n=10) effectively covers the Belconnen area where the festival was taking place but there were also smaller clusters across north Canberra in 2602, 2615 and 2913. There was no difference between males and females as to whether they came from Canberra or NSW. However, those aged over 20 years were more likely to have come from NSW (60% vs 32%) while those 20 years or younger were more likely to provide an ACT postcode (68% vs 40%).

Those aged over 20 years were slightly more likely to have sourced from a dealer (34% vs 22%) while younger patrons were more likely to say from friends (62% vs 50%). Females were more likely to report that their source was a dealer (34% vs 25%), however the same percentage of males and females reported obtaining from friends (54%). A small percentage of males (5%) and females (4%) said they sourced their drugs online. Although small, online purchasing is growing and MDMA is known to be one of the most popular drugs purchased through on-line anonymised dark net markets (Mounteney et al., 2016).

Sixty-six percent reported that they knew of others using the same substance. Females were marginally more likely to say they knew of others using the same substance (68% vs 65%) and those aged over 20 years were somewhat more likely to say they knew of others using the same substance (70% vs 61%).

## COMPOUNDS DETECTED BY CHEMICAL ANALYSIS

Table 4 shows the compounds detected as the top compound by their common terminology for all the patrons and then restricted to of the top two quartiles >500 and >750. As there are no agreed standards for cut-offs either in Australia or overseas we have elected to use a conservative threshold of >750. The largest compound detected regardless of cut-off is MDMA. The total sample data indicates that the drugs being taken by patrons are of variable quality. Only 39 substances tested were qualitatively assessed as likely of reasonably high purity (>750), while a further 27 were tentatively identified and qualitatively assessed as likely of low purity (501-750). Of the latter group this was substantially comprised of filler or cutting agent. This is consistent with international findings (see Mounteney, 2018). TheLoop in the UK has also reported 'substitutes included ground up anti-malarial tablets, household cleaner, paracetamol and concrete' (<https://www.theindustryobserver.com.au/study-finds/>).

**Table 4: Chemicals detected for different hit quality levels**

Common name	Total sample - no cutoff (n=83)		Cutoff at 500 (n=66)		Cutoff at 750 (n=39)	
	number	percent	number	percent	number	Percent
MDA	1	1	1	2		
MDEA	1	1				
MDMA	42	51	38	58	32	82
Antihistamine	1	1	1	2		
Caffeine	3	4	3	5	1	3
Cathinone drug	1	1	1	2	1	3
Cocaine	2	2	2	3	1	
Dietary supplement	1	1				
Fibre	3	4	3	5		
Filler or cutting agent	17	20	15	23	3	8
Foodstuff	3	4				
General chemical	2	2				
Ketamine	1	1	1	2	1	3
Oil	1	1				
Opium	2	2	1	2		
Protein	1	1				
Toothpaste	1	1				

**Source: HRA STA-SAFE, 2018, Merged ACT GTM file, N=86**

Depending on what drug manufacturers put into the substances this could either be highly dangerous (Project Know, 2018) or benign. A breakdown of the filler or cutting agent in the top two quartiles indicated that 13 of the compounds were lactose, 1 was MYO-INOSITOL and 1 was sucrose.

In one case *N*-Ethylpentylone was detected with a hit level of 919. This is a dangerous drug that has recently emerged and has been responsible for mass casualty overdoses in New Zealand (Thomas, 2018) and more recently, deaths (Atherton, Dye, and Beck, 2019). Our clinician was not aware of any overdoses in the ACT involving this drug to date although law enforcement has subsequently confirmed that they have detected the drug in samples they have tested in seizures.

The user profile was male and aged over 36 years who purchased from their dealer and had used before. However, they thought the substance was “meth” as that is what the dealer had told them. On learning of the contents they were somewhat surprised, and seemed undecided about their intended actions. They advised the chemist and clinician that they were going to discard it, but then indicated to the AOD worker that they would not discard in the amnesty bin provided in the tent but indicated that they would use less of the drugs. They reported they did not know of anyone else using the drug.

A second case study was indole 3-acetamide as the first compound in one case with low hit quality of 275. On the night the clinician’s judgement was this was ‘suspicious’ as it is not one of the commonly occurring fillers/congeners and could potentially indicate one or other of the indole family of drugs that includes dimethyltryptamine (DMT). As a result, a red flag was raised as this was deemed the safest thing to do in the absence of a clear compound identification. It also highlights why the chemical testing and the clinician’s assessment are complementary.

The UK pill testing group The Loop, advised they also undertake reagent testing on-site when the IR detects substances like “parexyl” which is classified as tooth paste. This can be a false positive which is triggered by a common ecstasy excipient. It is also the case that “rayon” and “cotton fibre” can also be covering up something else. It would be advisable for future testing that reagent testing be part of the chemical testing process.

There were significant differences between those deemed to be above and below the threshold (>750) in terms of the form the drugs were presented in. Of the 41 capsules, 61% were above the threshold (that is reasonably high quality), of the powder form 50% were above the threshold. This compared to only 16% of tablets being above the threshold. Of the six presented in crystal form 83% were above the threshold.

Of the MDMA samples above the threshold, 72% were capsules, 13% crystal, nine percent were in tablet form and six percent came as powder. Both the cocaine and ketamine samples above threshold were in powder form.

## **WHAT PATRONS EXPECTED**

Patrons were asked what they thought the substances they had brought in for testing were. Table 5 shows that eighty-three percent said MDMA, four percent said cocaine, and two percent ketamine. In regard to how people obtained their drugs, friends and dealers were the most likely supplier of drugs. However, the number of patrons that reported their source of information about exactly what they were about to consumed was reversed with more saying that the dealer was more likely to have provided them with the information than their friends. This difference may be a wording issue related to the question asked and/or refers to people sourcing their information from friends who had told them what information the dealer had provided (and therefore was viewed as the source of information); online probably includes the instances where people check whether their substance matches on-line information.

**Table 5: Drug patron expectations and supply**

	Number	Percent
<b>Expectation of drug type (n=83)</b>		
MDMA	70	84
Cocaine	3	4
Ketamine	2	2
Endone	1	1
Meth	1	1
PMA	1	1
Unknown	5	6
<b>Where they got drugs (n=82)</b>		
Dealer	23	28
Friends/acquaintance	47	57
Found it	6	7
Online	4	5
Other (a)	2	2
<b>Their source of information (n=82)</b>		
Already tried	6	7
Dealer said	51	61
Friends said	13	16
Online	6	7
Found it	6	7

(a) Other includes prescribed and rather not say

**Source: HRA STA-SAFE, 2018, Merged ACT GTM file, N=86**

### **CONCORDANCE BETWEEN EXPECTATION AND TESTING**

Table 6 shows concordance between the patron's expectation and what was actually found from the IR testing using the >750 cut-off. The analysis of concordance using Kappa found only 43% agreement which is fair to moderate concordance indicating that patron's knowledge of what they are taking is often not well founded. Even if we conduct the analysis with no cut-off for the IR detection the agreement rating only rises to 62%. This is lower than that reported by The Loop which reports a concordance of 80% (TripleJ Hack, 2017). This confirms that Australian MDMA has higher rates of substitution or impurities in the tablets sold on the unregulated market.

Of the 81% who thought they were consuming MDMA, 45% (n=31) did have MDMA identified as the major component while for 54% no compounds were detected above the cut-off threshold. None of the three people who thought they were consuming cocaine were found to have cocaine above threshold while one of the two people who thought they had ketamine were found with ketamine in the drug sample. Of the eight people who reported a range of other drugs they were expecting half did not have compounds found above the threshold.

**Table 6: Concordance between expectations and IR detection (n=81)**

	Expected drug								
	MDMA (n=69)		Cocaine (n=3)		Ketamine (n=2)		Other (n=7)		
	N	%	N	%	N	%	N	%	
<b>IR detection – above 750 cutoff</b>									
MDMA	31	45	0	0	0	0	0	0	0
Cocaine	0	0	0	0	0	0	0	0	0
Ketamine	0	0	0	0	1	100	0	0	0
Other	2	3	0	0	0	0	3	43	
<b>Nothing detected above cut-off</b>	36	52	3	100	1	50	4	57	

**Source: HRA STA-SAFE, 2018, Merged ACT GTM file, N=86**

Of the two who thought their drugs were ketamine in one case, a female, the testing found ketamine (905). In the other case antihistamine was found as the top compound (745) but ketamine was found as the second best match but at a much lower hit quality level (206). The male who brought in the substance was very surprised by the results. Of the cocaine, one was of high purity (926) but was an orphan sample; the other sample was moderate (689). For the latter sample, the patron (gender was not provided) was expecting it to be cocaine.

Those with high concordance (that is their expectation is confirmed by the drug testing) are significantly more likely to be males and aged 20 years or younger. Those who reported they sourced the drugs from a friend rather than the dealer were somewhat more likely to have high concordance (47% vs 39%). Of the five people who said they had not tried illicit drugs before only one had a concordant result.

Forty percent of those who provided information post the testing of the drugs indicated they were not surprised by the results of the chemical tests while 19 percent were somewhat surprised and 41 percent reported being very surprised. Table 7 confirms what we would expect – those whose expectations were confirmed by the testing were more likely to not be surprised while the opposite is the case for those whose expectations were not confirmed. However even those with high concordance expressed surprised with the results (28%).

**Table 7: Response to results of testing by concordance (n=73)**

	Concordance			
	No		Yes	
	N	%	N	%
Not at all surprised	13	32	16	50
Somewhat surprised	7	17	7	22
Very surprised	21	51	9	28

**Source: HRA STA-SAFE, 2018, Merged ACT GTM file, N=86**

## INTENDED BEHAVIOUR

After receiving the information on the chemical testing of their drugs 58 percent indicated they intended to use the drugs as planned. Twelve percent said they would use less, five percent said they would not use this drug but another drug, seven percent were undecided while 18 percent said they would not use illicit drugs.

Eight percent (n=6) reported that they would discard the drugs, 81 percent (n=59) said they would not use the amnesty bin while 11 percent (n=8) were not sure. From the observations on the night five people were observed using the amnesty bins. Given the constraints already described earlier in the report the eight who were unsure could be converted into ‘observed discards’ with more appropriate arrangements. If this was the case it would result in 19 percent ‘discarding’ which would be consistent with The Loop which reports that around 20% bin their drugs (<http://www.abc.net.au/triplej/programs/hack/how-pill-testing-works-in-the-united-kingdom/9146380>).

There is a significant difference in the reported intended behaviour between those whose chemical tests showed reasonably high purity as opposed to those with tests indicating low purity (see Table 8). Those with low purity test results were more likely to be undecided or intended not to use or were more likely to say they would discard their drugs. However, even those with a high purity report said that they would modify their behaviour with 12 percent saying they don't intend to use and 18 percent report they will use less.

**Table 8: Intended behaviour (n=74)**

	Low purity		High purity	
	N	%	N	%
<b>Future use</b>				
Undecided	5	13	0	0
No future use	9	23	4	12
Use less	3	8	6	18
Not use this, but use other drug	3	8	1	3
Same use	20	50	22	69
<b>Discard</b>				
Yes	5	12	1	3
Unsure	7	17	1	3
No	29	71	29	94

*Source: HRA STA-SAFE, 2018, Merged ACT GTM file, N=86*

A logistic model where the dependent variable was some change versus no change was estimated. Table 9 indicates that there are three significant predictors. Females and those who were surprised by the results are significantly more likely to report that they will change their behaviour. Those who sourced from a dealer were less likely to indicate that would change their drug use behaviour. When controlling for these range of factors the purity of the substance detected is not a significant predictor of whether people intend to change or not.

**Table 9: Predicting intended change in behaviour (n=72)**

	Odds Ratio	Std. Err.	z	P>z	[95% Conf. Interval]
Female	3.23	1.86	2.04	0.04	1.05 9.96
Aged over 20 years	0.99	0.58	-0.01	0.99	0.32 3.09
Sourced from friend	0.51	0.39	-0.88	0.38	0.11 2.30
Sourced from dealer	0.23	0.21	-1.66	0.10	0.04 1.31
Surprised by results	2.63	1.52	1.68	0.09	0.85 8.16
ACT postcode	0.44	0.25	-1.43	0.15	0.14 1.36
High purity	0.52	0.29	-1.19	0.24	0.17 1.54
Constant	3.23	1.86	2.04	0.04	1.05 9.96

*Source: HRA STA-SAFE, 2018, Merged ACT GTM file, N=86*

## DISSEMINATION

Sixty-six percent reported that they knew of others using the same drugs. When asked if they would tell them about the results 90 percent said yes. This is a very high number and represents a number of other people being informed of the testing results and the dissemination of information well beyond those that presented to the service.

If 44 out of 83 patrons tested, on average, tell three other people dissemination increases to approximately another 132 people who are provided with information of both the tests but also relevant AOD messages. If these people in turn speak with other people, the reach of the information becomes very high and potentially very quickly.

There is also research available that demonstrates that young people are influenced by other young people; and these are also more likely to be trusting relationships, especially when compared to the messages and other information received from government and other public campaigns. Relaying AOD messages through peers who have been given credible advice may assist in reducing harmful drug use amongst a population who do not traditionally access drug and alcohol services.

## SERVICE RATINGS

Eighty-three percent said they rated the service as very good, with 13 percent reporting it was good. Four percent said it was reasonable. Nobody indicated the service was poor or very poor. Patrons were asked to comment on how the service might be improved. Table 10 indicated the issues raised by patrons. These issues accord with the earlier discussion about how to improve the process of on-site service delivery.

**Table 10: Service improvements by patrons (n=74)**

	N	%
More testing facilities	8	11
More space	14	19
Better signage	21	28
Reduced security	7	9
Reduce waiting queues	11	14
More staff	3	4

*Source: HRA STA-SAFE, 2018, Merged ACT GTM file, N=86*

## COSTS OF SERVICE DELIVERY

The pilot was undertaken by a consortium of people and organisations, all of whom provided their services pro bono. This is not a long-term or sustainable model. In the UK in 2016 The Loop was established as a foundation that relies on pro bono support from key people such as medical practitioners, chemists and entertainers while working with local police forces, public health officials and authorities. The organisation has an active strategy to secure donors who provide funding for long-term sustainable service delivery. The Loop uses the IR spectroscopy which was also employed at the ACT pilot. Depending on the substances and results of testing, The Loop may undertake further work on the samples (see <https://wearetheloop.org/equipment/>).

There is a network of European Drug Checking (The Trans-European Drug Information or TEDI) groups who share expertise and data that helps to build the spectra libraries along with collecting other evidence. A key practical benefit of membership is access to immediate information on the emergence of novel psychoactive substances. The Loop reports that ‘at least one new psychoactive substance on the market was being reported every week’ through the network (<https://wearetheloop.org/collaborators/>).

Table 11 provides an estimate of the costs of providing the pill testing service on the night. These represent the approximate minimal recurrent costs of service delivery which was \$34,000, although it should be noted that \$5,000 of this amount was estimated for payments to the festival for paramedic and security services contributions.

While this may seem like a substantial amount of money, it represents roughly an order of magnitude less than the money invested annually in the sniffer dog program in NSW (TripleJ Hack, 2016). In other words, for the same investment 10 separate pill testing programs could be funded to provide an opportunity to positively engage with young drug consumers and collect meaningful, actionable, de-identified intelligence on the illicit drugs market - neither of which sniffer dogs can do.

**Table 11: Estimated costs of delivery of on-site pill testing**

Item	Budget	Details	GTM Pilot Funding Source
Spectrometer (inc. software updates)	Confidential	Non-recurrent payment	STA-SAFE organised equipment to be loaned
Confirmatory Testing Equipment	0	Non-recurrent payment	Not available
Furniture, amnesty bin etc.	500		STA-SAFE Payment
Stationery	500		STA-SAFE Payment
Educational Material	500		STA-SAFE Payment
Clinical Director x 1	2,000	Medical Practitioner	STA-SAFE (Pro-bono contribution)
Analysts x 3	3,000	Chemists trained in use of Pill Testing Equipment	STA-SAFE (Pro-bono contribution)
Peer Counsellors x 5	5,000	Trained in Pill Testing and Festival Work	STA-SAFE (Pro-bono contribution)
Review x 2	1,500	Operational review	STA-SAFE (Pro-bono contribution)
Security Staff	2,500		Reimbursement to Festival Promoters
Paramedic Staff	2,500		Reimbursement to Festival Promoters
Interstate travel	6,000		STA-SAFE Payment
Accommodation	1,500		STA-SAFE Payment
Travel Allowance	1,500		STA-SAFE Payment
Disposal Fees	500		STA-SAFE Payment
Promotion	1,500		STA-SAFE (Pro-bono contribution)
Report Preparation	2,500		STA-SAFE (Pro-bono contribution)
International Collaboration	0		Not Available
Insurances	2,500		STA-SAFE Payment
<b>Total Expenditure</b>	<b>34,000</b>		<b>Recurrent budget = 34,000</b>

## CONCLUSION

The purpose of the pilot was to test a number of aspects of a pill testing service at a popular Australian music festival. The most critical question was whether it was possible to actually deliver an on-site “front-of-house” chemical testing service at a festival in Australia. There is no question that this was achieved without any major or minor incident. Even though no information about the availability of the service was provided to patrons at the festival, 129 people located the facility and were assessed as eligible to access the pill testing site (two additional patrons were turned away). Patrons were advised of the conditions of entry and were willing to sign the waiver form.

FTIR testing was carried out and subsequent analysis found a range of substances ranging from lactose to high purity MDMA, cocaine and ketamine. The testing also confirmed that there is significant variability in the purity of illicit drugs being consumed. Importantly, one dangerous substance that has led to hospitalisations in New Zealand and deaths in the US, was confirmed amongst samples tested on-site. Sixty-one per cent of patrons were surprised by the results of testing. Substances presented in tablet form were significantly more likely to be of lower purity than other forms; high purity MDMA was most likely to come in capsules.

Although there was security present at the entrance to the service, law enforcement members kept a respectable distance while still doing their routine work. They inspected the service to ensure that all agreed protocols were in place and appropriately implemented. This is a standard operating procedure adopted by patrols near needle and syringe programs at fixed sites in public and around health services on-site at events where drug-related presentations do reasonably occur.

Three quarters of those who brought drugs for testing received some AOD brief intervention counselling. Forty-two per cent reported that their drug consumption behaviour would change as a result of the testing and 18 per cent indicated that they would either discard the drugs in the amnesty bins provided or were uncertain as to what they would do as a result of the information provided by the service.

Good practice guidelines for pill testing exist in Europe; these cover the broad principles for the establishment, delivery and evaluation of services for a range of “nightlife” interventions (Ventura et al, [http://newip.safernightlife.org/pdfs/standards/NEWIP\\_D\\_standards-final\\_20.12-A4.pdf](http://newip.safernightlife.org/pdfs/standards/NEWIP_D_standards-final_20.12-A4.pdf)). The STA-SAFE team followed these as closely as the operational constraints in Australia would allow. The pilot highlighted a number of operational factors that must be addressed to improve the effectiveness and efficiency of the service. These factors have been highlighted throughout this report. It is clear that Australian guidelines, tailored to the local socio-political context and designed to be implemented by Australian teams, need to be developed as a matter of priority.

Another key issue is further technology refinements that need to be implemented to compliment the FTIR testing. Given the high number of cutting agents identified in our tests, reagent testing or complementary testing methodologies such as mass spectrometry should be included in future tests. This will assist in determining if cutting agents are masking other chemicals.

The current science around the testing of pills is at the same embryonic stage as waste water analysis over a decade ago. Over the past ten years, with the continental Europeans leading the way, ‘a best-practice protocol with regard to sampling, sample handling, chemical analysis, back-calculation and data reporting’ (Castiglioni, 2016:7) has been developed for waste water testing.

It is important to realise that the two approaches serve different purposes but have the potential to provide complementary data. Pill testing is a point of service which tests the drugs before they are consumed and, critically, provides immediate information to consumers about their individual drug, while waste water analysis tests for metabolites that can’t be linked back to individuals and potentially provides population rates for drug consumption. Waste water testing at festivals may reflect the types and levels of drugs consumed days prior to the festival; there is limited capacity to report “dangerous” drugs directly linked to the festival and no capacity to alert individuals about the substances they are proposing to consume. It is also not possible to discern where the substances may have originated via signature profiling nor to obtain data on the major compounds detected in a single pill. However, Castiglioni (2016: 12) has noted that in terms of monitoring drug use interesting possibilities emerge if different forms of data collection were co-ordinated and assessed –in this case it might involve a general survey of festival patrons, pill testing and waste water

analysis. Pill testing provides an opportunity for Australia to participate in the development of science in this field, to inform the evidence base for future policy and practice and to provide a direct, immediate harm reduction intervention that is already widespread across Europe and in the past year has been implemented at some festivals in England, Wales and North America.

Waste water testing is unlikely to provide cutting-edge intelligence on rare substances like ethylpentylone or substances that are emerging and yet to be characterised. On the other hand, pill testing offers the opportunity to provide such “just in time” intelligence to both police and health services. However, a model that only provides “back-of-house” testing cannot communicate directly to the consumer the specific intelligence on the particular substance they use, nor does it deliver robust medical advice and engagement with peer-based counsellors about the evidence-based risks of drug consumption.

Young people take risks and festivals are an environment in which they are surrounded by peers; the research shows both that the young take more risks and that they are more likely to be influenced by peers. Establishing a “front-of-house” pill testing model – as was the case with this pilot – is clearly possible and practicable and offers peer-based brief interventions, counselling and referrals as a central part of a holistic approach that encompasses harm reduction with a pragmatic focus on both demand and supply reduction.

Pill testing as a harm reduction service at the ACT GTM can be described as an overwhelming success.

The pilot demonstrated that such an intervention is possible and that people are willing to use the service, despite the limitations arising from the tight timelines, inauspicious physical infrastructure and the lack of dissemination strategies on-site during the festival.

The development of a uniquely Australian pill testing service model that involves peers, health professionals and law enforcement officials working together to reduce harm amongst drug users needs to be prioritised and supported by all Australian governments.

To conclude this report and illustrate the success of the ACT pill testing pilot some of the commentary provided by community leaders in the ACT after the festival is noted below.

#### **ACT Health Minister Meegan Fitzharris**

*The trial was a success and had shown there was a demand for the service. This will assist to better understand how pill testing may help reduce the harms of illicit drug use at festivals and will inform next steps and future drug policy. As the first trial to be conducted in Australia, I know that other jurisdictions will be looking on with interest to see the results of the evaluation. We look forward to releasing the evaluation once complete*

#### **ACT Chief Police Officer Justine Saunders**

*Our intention was to focus our efforts on those who were trafficking and selling drugs, focusing on the criminality of drugs but allowing the pill testing to occur in a safe way. The day overall was a great success. We are not in the business of targeting people who abuse drugs. We're very focused on criminality, focused on the selling and trafficking of drugs at these events.*

#### **ACT Chief Health Officer Dr Paul Kelly**

*If we continue to do what we have been doing for the past 20 or 30 years in relation to drug policy, we will continue to get the issues that we face at festivals and other places every weekend and day in day out in Australia of kids putting themselves in harm. At least with pill testing, they have some information to guide their behaviour and we did see yesterday people changing their behavioural choices on the basis of the information they were given. The trial was a success and the lessons learned would be really valuable for the ACT and other jurisdictions around Australia.*

#### **ACT Ambulance Commander Toby Keen**

*We didn't see anyone who'd been to pill-testing. It's worthwhile noting the people we transported for acute intoxication hadn't been to pill-testing which I think is actually a good success marker for the pill-testing.*

## **APPENDIX 1: SAFETY GUIDELINES**

All patrons are required to sign a waiver before testing is possible (Note: you must be observed as having the capacity to sign a waiver; it will be destroyed after the event)

To ensure the confidentiality of the service, photography of any kind is strictly prohibited - all patrons must submit their phones to staff prior to entering the tent (We will take reasonable steps to keep your property safe, but we do not accept liability for any property that is lost, stolen, or damaged in the process)

This is an anonymous service - we will collect de-identified information for evaluation purposes only

If a patron enters the tent with a large amount of a substance (deemed a commercial quantity), they will be refused service

If a patron is showing signs of illness or intoxication, they will be referred to on-site health or welfare services

Any anti-social behaviour will be reported to on-site security and/or police; this includes attempting to take photographs, aggression, being in possession of illicit substances in public viewing, or possessing large quantities

## APPENDIX 2: ELIGIBILITY SCREENING FORM

Harm Reduction Australia (HRA)

Initial assessment for eligibility to access testing facility

If intoxicated or engages in anti-social behaviour they are not eligible to participate.

If eligible refer to drug testing area.

Record time and tick appropriate box for EVERY person who presents

Record time	Assessed Eligible to refer to drug testing area	NOT ELIGIBLE – TICK APPROPRIATE BOX/ RECORD REASON			
		Too young	Intoxicated refer Red Frogs	Antisocial behaviour –note behaviour and action taken eg. aggression, requested security	Other -- record reason

**APPENDIX 3: WAIVER FORM**

**Patron Pill Testing Liability Waiver**

*To be signed by any patron before commencing pill testing.*

I, the person signing this document (**I/me**), agree that in consideration of receipt of the pill testing service carried out by Harm Reduction Australia (**HRA**) at the 'Groovin the Moo' festival (**Festival**) on 29 April 2018 at The University of Canberra (**Services**), to release and discharge HRA, its employees, directors, contractors and volunteers and any other person connected with the provisions of the Services from any liability for personal injury or death suffered by me arising or connected in any way from the Services.

**By signing I confirm having read and understood the contents of this waiver.**

NAME: ..... SIGN HERE..... DATE: .....

**No test results regardless of findings:**

- 1) Provides evidence of purity  
*(Drugs are almost always adulterated)*
  
- 2) Provides evidence of safety  
*(no drug is completely safe, even if it is pure)*
  
- 3) Provides evidence of dose  
*(you never know how weak or strong the effects will be)*
  
- 4) Provides information about how you will respond to the product being tested, today.

I understand that the advice provided does not constitute any recommendation to consume drugs, and has been provided for the purposes of preventing drug related harm.

All drug use carries with it an inherent risk.

The only way to guarantee, 100%, that you are not harmed by consuming drugs is not to consume drugs.

Sample Number: ..... Initial: .....

## APPENDIX 4: PRE-TESTING DATA COLLECTION SHEET

Harm Reduction Australia (HRA)

Pre-result data collection instrument

As this is a trial of drug testing HRA is collecting some basic data to help inform the government as to whether the service is worthwhile and should continue. None of the information you provide will be linked to you and it will only be used to develop aggregated statistics to inform future drug testing services. We are using a unique id number to anonymously link the testing results. If you don't want to answer the questions you don't have to; or if there is a particular question you don't want to answer that is okay. You will still be able to access the pill testing facilities.

Would you answer some questions?

Tick box: Patron agrees to proceed

Q1. We are interested in knowing what you think the drugs you are getting tested are? Record the name(s):

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Q2. What makes you think that? Tick the most appropriate box

Already tried it  That is what I was told by the dealer  What my friend(s) said it was  Other and record

Q3. Is this the first time you have ever used illegal drugs? Tick box

Yes |  No

Q4. Would you tell us how you got these drugs? Tick the most appropriate box

Dealer  Friend  Relative  Workmate  Acquaintance  Gift  Online  Don't know  Rather not answer

Q5. Can you tell us your gender? Tick the most appropriate box

Male  Female  Non-binary  Different identity  Rather not answer

Q7. What year were you born in? Record year in box

Q8. Finally, can we ask for your postcode? Record postcode in box

Many thanks. We would like to ask a few more questions after you get your results if that is okay.

## APPENDIX 5: POST-TESTING DATA COLLECTION SHEET

### Harm Reduction Australia (HRA)

Post testing data collection instrument

We would like to ask a few questions to get some feedback on the service.

Tick box: patron agrees

Q1. Were you surprised by the test results? Tick the most appropriate box

Not at all  Somewhat  Very surprised

Q2. Do you know others using the same substance? Tick box

Yes |  No

Q3. Will you tell them the results? Tick box

Yes |  No

Q4. Has the testing changed your mind as to whether you intend to use these drugs at the festival? Tick the most appropriate box

No, I intend to still use it as initially intended  Yes, but I will use less  No, I will use other illicit drugs instead  Not sure  Will not be using any illicit drugs

Q5. Will you discard your drugs in the amnesty bin? Tick box

Yes |  No |  Not sure

Q6. How would you rate the service? Tick the most appropriate box

Very poor  Poor  Reasonable  Good  Very good

Q7. How could we improve the service? Record suggestions:

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Q8. Is there any other feedback you would like to give us? Record responses:

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Thanks very much for your time.

***Write id number here***

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