# T R A N S C R I P T

# LAW REFORM, ROAD AND COMMUNITY SAFETY COMMITTEE

## Inquiry into drug law reform

Melbourne — 19 June 2017

Members

Mr Geoff Howard — Chair
Mr Bill Tilley — Deputy Chair
Mr Martin Dixon
Mr Khalil Eideh
Ms Fiona Patten
Ms Natalie Suleyman
Mr Murray Thompson

Witnesses

Professor Noel Woodford, Director, and

Dr Dimitri Gerostamoulos, Chief Toxicologist, and Head, Forensic Sciences, Victorian Institute of Forensic Medicine.

**Necessary corrections to be notified to executive officer of committee**

**The CHAIR** — We will now hear from the Victorian Institute of Forensic Medicine. Gentlemen, you would be aware that Hansard will be recording everything we say and a transcript of the discussions will come back to you in a couple of weeks for you to check that it is technically correct in terms of what was said, and then it will be part of the public record. You would also know that you are covered by parliamentary privilege while you are speaking to us; I guess you understand that.

We thank you for the submission that you have provided to us amongst the 220 submissions we did receive. We would like you to have the opportunity to speak for a moment about some of the key points in your submission or to highlight some of the key issues you want us to be aware of, and we will have some discussion from there. Over to Noel first, and then Dimitri might want to make some comments after that.

**Prof. WOODFORD** — First of all, thank you very much to the committee for extending the invitation to us to make a submission and also allowing us to talk to it. By way of introduction, my name is Noel Woodford and I am the director of the Victorian Institute of Forensic Medicine. I am also the professor of forensic medicine at Monash University. With me today is Dimitri Gerostamoulos, our chief forensic toxicologist and head of forensic sciences at the institute.

I thought before beginning it might be worthwhile giving you a little bit of background about the institute and our work. We were founded in 1988 as a provider of high-quality, reliable and robust forensic evidence for the justice and health systems but also the courts, including the Coroners Court of Victoria. We are in Southbank, and we happen to be co-located with the Coroners Court. We are the largest and most diverse organisation of its type in the country. Our range of services include medico-legal death investigations for the coroner; clinical forensic medicine, so examining victims of assault, which is both physical and sexual; in the area of family violence; and also the forensic medical sciences, including most importantly in the current context, forensic toxicology. We are home to the Monash University Department of Forensic Medicine, which essentially is the academic and research underpinnings of our work and supplies the evidence base for our expertise.

Toxicology is a very important aspect of our work, both in the living and the dead. We test for the presence of drugs and toxins in a whole range of deaths — homicide, suicide, natural and accident. In the living we provide toxicology services to Victoria Police in the realm of random driver drug testing, testing of impaired drivers and presumed drug-facilitated assault, both sexual and otherwise.

We see the effects of illicit and inappropriate prescription drug use every day, but only in those people who come to our attention, both living and dead. For instance, we really do not have an understanding of the type, the prevalence and the effects of emerging novel designer substances resulting in the need for ambulance or hospital attendance where treatments are provided often on a presumptive or symptomatic basis and the patients are then subsequently discharged back into the community. We do not see those cases.

Unfortunately, though, we have got significant experience in the effects of well-known drugs of abuse. We know the abuse of alcohol and methamphetamine is at alarming levels — 19 per cent of deceased drivers have a blood alcohol level exceeding the prescribed limit and more than that, 19.5 per cent, have methamphetamine detected. These figures are also mirrored in injured drivers, with 14 per cent of all injured drivers in Victoria being alcohol positive, 18 per cent stimulant positive and 16 per cent cannabis positive. Also, because my background is in forensic pathology, I am particularly interested in this statistic — 64 per cent of all our homicide cases involve the presence of one or more of these drugs — that is 64 per cent.

But what we really do not know and would like to know more about in order to try and address is the increasing use and serious side effects of novel psychoactive substances. There are over 700 of these, as the committee probably knows, including novel cannabinoids, stimulants, opioids and hallucinogens, with an estimated one new drug of this type emerging every week.

We have got one of the most sophisticated tox labs in the country, but even we can only detect around 140 of these substances. What we do not know but seriously suspect is that these drugs are implicated in a number of otherwise unexplained deaths. This is where our thinking began when we received the invitation from the committee to provide our submission. We cannot detect these drugs unless we know what we are looking for, and that is where better interagency cooperation and collaboration is, in our view, of paramount importance.

So when clandestine laboratories are uncovered or when the police seize pills, both in Victoria and around the country, how do the results of these analyses filter down to agencies such as ours so that we can develop

methods for detection, share techniques and knowledge, and begin to develop a better understanding of their prevalence and also their clinicopathological effects? How do we develop a repository of this information, such as a national register of drugs, so that all involved in their detection can benefit, and how do we get the information out to those who need it most — doctors, health departments and the community — in a timely manner so that awareness is raised and harm can be prevented? What can we do to assist our clinical colleagues who are dealing with the effects of often unknown substances in emergency departments around the country with timely information about the drugs they are dealing with so that treatments can be tailored accordingly?

The terms of reference for the committee include consideration of procedures relating to drug harm prevention as well as suggestions for positive reforms. The proposals in our submission are directed at each of these areas. We hope that the establishment of a multidisciplinary approach to novel psychoactive drug use, information collection and sharing, as well as better collaboration between agencies and government will result in improved community health outcomes and provide a sound evidence base to inform drug reduction strategies and policy as well as effective legislative change.

**Dr GEROSTAMOULOS** — To follow on from that, our submission is focused really on two key themes. One is a 24-hour, seven-day-a-week clinical toxicology service for all Victorian hospitals. That currently does not exist. The other thing we want to do is be involved in an early warning system — this could be national but certainly with interagency collaboration — which provides real-time detection data, monitoring and information about what these drugs are and how they are being used in the community. They are interrelated themes, and they serve to really better inform the community, judges, police, members of Parliament, clinicians and investigators about the harms of these drugs but also traditional drugs that are often used in combination and what those harms are on people in our society.

We have already had discussions with senior emergency clinicians both at the Austin and the Monash Medical Centre, who welcome and endorse the initiative for a rapid clinical toxicology service. The expertise and scope of the tox work under our organisation means that we are ideally placed to provide this timely data, and better treatment results in measurable efficiencies for the community in terms of better health outcomes, reduced days in hospital and more timely information regarding the relative dangers of these different drugs.

You probably know that recently, in May, the Victorian government amended the legislation dealing with novel psychoactive drugs. All drugs that really are not scheduled under the new amendment will be considered illegal provided the drugs in question can be shown to be psychoactive. That is an important point because currently there are very few papers that actually demonstrate the pharmacological activity of these compounds. So in essence we just do not know highly psychoactive they are. But with the ability to measure these and often the metabolites that are present in people who present in emergency departments we could have documented clinical observations as to the psychoactive effects of these drugs and some of these toxicological findings, which then could be used to inform the justice system regarding the pharmacology of these substances and whether they are actually psychoactive or not under that new provision.

Currently we receive a number of requests from Victoria Police and the Australian Federal Police seeking information on the psychoactive nature of these compounds, and these questions that need to be answered not only for our police but treating clinicians, lawmakers, the users themselves and drug and alcohol researchers. We just do not know enough about these drugs. So that is part of our submission.

There are a number of other things in our submission to the committee here that could be obtained from establishing these initiatives. Without going into the submission itself, we are happy to answer questions, I think, and expand on some of the themes that we have been talking about.

**The CHAIR** — Can I follow up with you first. In terms of the services you provide and then your suggestion of moving to a 24/7 rapid response service, what quantum of expansion of your service would that involve?

**Dr GEROSTAMOULOS** — Currently we actually provide what we call an overnight service to our State Coroner. So within 24 hours we have a screen for about 130-odd drugs that we can provide information on, and these are psychoactive drugs. But they are really prescription drugs and the current drugs of abuse. The scope of drugs does not include a lot of these NPS substances, so these new synthetic drugs. We just do not have the capacity to do that rapidly at the moment. We are developing techniques and methods to do that; however, we do need additional equipment and resources to be able to provide a rapid 1 or 2-hour service back to hospitals,

which is a lot more involved than what we do currently. It is just not possible at this stage to provide that rapid service without additional resources. That would be both instruments and people as well to be able to provide that timely detection information.

The other issue for us is: how many of these drugs can we see? Not very many. Why? A lot of these reference standards, which is what we often need to provide the evidential standard in court, do not exist, and we do not know when someone takes a drug what it is actually metabolised to. When someone takes a drug the body will try and remove that drug in another form. Often it will metabolise it to other products, and we do not know what they are. So there is still a lot of work that needs to be done in this area. Could we provide a rapid clinical service to hospitals currently? We are piloting a program, come 1 July, with the Austin and Monash for a range of some of these drugs but not a comprehensive service, which is ideally what we would like to provide to give them a better handle on some of the drugs that are being used in the community.

**Prof. WOODFORD** — So currently there are limited range of tests that hospitals do in presumed drug overdoses, and they are usually urine tests and they take some time. What we are proposing is that we have the infrastructure there to be able to actually expand the information provision from drug testing but also in a more timely manner, even in those understood drug cases, but expanding that to the novel psychoactive drugs as well.

**The CHAIR** — So in terms of my question about quantum, would you need to double the resourcing that you get at the moment?

**Dr GEROSTAMOULOS** — No. We would need some specialist equipment which would help us identify some of these compounds and some additional staff to be able to run a 24-hour — —

Currently we do not provide a weekend service or after-hours service, but that is something that we could establish provided we were given the resources to do that. So it is not a quantum leap, no.

**Ms PATTEN** — With this early warning system, I appreciate the limits to what we can do and certainly the limits because of the existing library that you have. The weekend before last there were six ambulance call-outs in the city. It was a suspected GHB overdose on one, but then two were probably some new psychoactive substances. How do we get that information out to the general public as quickly as possible? Because in some ways what we needed to do is to have that alert going out to people saying, 'If you see something like this, don't take it'. Is that part of the early warning scheme that you are recommending?

**Prof. WOODFORD** — The information we uncover could inform public service announcements, for instance. Another thing is also in the more professional literature. We have got an example here with the State Coroner, Ian Gray. We talked to him about some concerns we had over unexplained deaths in the setting of a synthetic cannabinoid.

**Ms PATTEN** — Yes, it was PB-22.

**Prof. WOODFORD** — PB-22, that is right, and getting that out in the professional literature read by treating clinicians but other toxicology labs so that they are aware of it, and they can then inform their own police and coroner systems.

**Ms PATTEN** — Was PB-22 already banned at the time of these unexplained deaths? Do you know? I know it is scheduled now.

**Dr GEROSTAMOULOS** — Yes, it was scheduled.

**Ms PATTEN** — It was scheduled, so it had already been scheduled and it was already able — —

**Dr GEROSTAMOULOS** — That is right. That is my understanding, that it was scheduled at the time when we identified this.

**Ms PATTEN** — I think there was one case where a person, whether it was the PB-22 actually caused the death — —

Did it cause the body to stop working, or did it cause them to do something that caused the death?

**Prof. WOODFORD** — These were unexplained deaths, so probably acting by mechanisms that we do not fully understand.

**Ms PATTEN** — Yes. Right.

**Dr GEROSTAMOULOS** — Some of these drugs do bring on quite bizarre adverse effects, quite violent episodes involved.

**Ms PATTEN** — Yes, as we saw the weekend before last.

**Prof. WOODFORD** — So there are the neuropsychiatric-type effects that alter sensation, but also the physical effects, such as raised pulse and blood pressure. We are talking about people who present to emergency departments with unexplained temperatures, sometimes seizures or altered conscious states, so both of those effects are really important to understand.

**Dr GEROSTAMOULOS** — Currently we only see the people who actually end up being reported to the coroner, and then we investigate those subsequently. What we are proposing is that we provide some of this information back to clinicians, who within a couple of hours would actually know that there is a potent hallucinogen involved in this man's overdose or this woman's overdose.

**Ms PATTEN** — Which would be fantastic.

**Dr GEROSTAMOULOS** — It adds to the body of information, and then we may triage that treatment somewhat better, which means that they spend less time in hospitals but their treatment is more directive, and that they can develop systems in place that deal with groups of drugs, as they currently do. There is a need for that.

**Ms PATTEN** — We just heard from the Alcohol and Drug Foundation, and they are very supportive of pill testing, or at least running a pilot trial on this. They say that this would also enable them to inform agencies like yourself of what is actually out there on the ground and what people are buying online and importing in. Do you have a position on such a pilot?

**Prof. WOODFORD** — Not at the moment. I caught some of the tail end of that discussion, but what I would say is that even in a pill-testing regimen — let us say a person goes and thinks they are buying ecstasy and the test shows ecstasy; that is one thing — it does not talk about the amount of drug; it does not talk about what else is in that pill.

**Ms PATTEN** — And that is if they are using just the reagent test, but they were talking about a more sophisticated — —

**Prof. WOODFORD** — It can provide a false sense of security as well — 'Yes, it's ecstasy, but we don't know what else might be in that tablet' — so there are concerns there.

**Ms PATTEN** — They were suggesting a more sophisticated version so you would be able to test potency and you would be able to test whatever is in the library of known additives.

**Prof. WOODFORD** — Developing that library is really important because, as we have said, even with our lab we are only detecting 140 of these drugs.

**Ms PATTEN** — Yes, and that was what they were suggesting, that this would add to your body of work.

**Prof. WOODFORD** — Correct.

**Ms PATTEN** — Any information is good information in this area.

**Dr GEROSTAMOULOS** — There are merits to pill testing where it can provide some information to the user about the type of drug provided that that is identified. We know that there are certain limitations associated with not only those rapid-testing kits, which are largely ineffective and not very specific — —

**Ms PATTEN** — Eleven per cent accuracy.

**Dr GEROSTAMOULOS** — They are not very specific or accurate. To have a mobile laboratory requires high-tech equipment, requires people who can test a range of these compounds, and even then they will not detect all of the compounds that are available. You will not be able to determine potency from these. You will be able to identify that it is a particular drug and the relative potency depending on how much you use and who uses that and what other drugs they are taking — that is an important component — so additionally whether there is alcohol present or a number of other serotonin drugs that potentiate these drugs.

**Ms PATTEN** — Whether they are on prescription medication?

**Prof. WOODFORD** — Correct.

**Dr GEROSTAMOULOS** — Yes, prescription medication, so a lot of antidepressant or antipsychotic medication can interfere with these drugs. They can either be additive or potentiate some of the adverse effects, so it is not straightforward. It does provide some information, but there are limitations in terms of the information that can be obtained from pill testing.

**Mr DIXON** — We heard from the magistrate from the Drug Court, which was fascinating. He said they are having some significant court delays due to getting the evidence that they need. He did suggest exploring the concept of a spot test so they actually push the court process along and eliminate what they might be looking at. Is that part of what you are talking about as well, or is this separate to a rapid response?

**Prof. WOODFORD** — It was partly what I mentioned in the introduction. I guess what is being referred to there is testing by police of substances in someone's possession, which is not what we do as an organisation. What I am proposing is that we interface better with the police so that when they do test for these substances we know what they are detecting and we know what the changing trends are so that we can then develop standards for testing in live and deceased people.

**Mr DIXON** — Right. Thank you.

**Dr GEROSTAMOULOS** — The spot tests will be useful for drugs of abuse that are traditionally understood and well researched — cocaine, heroin, methamphetamine. Spot tests are actually not very useful at all for any of these NPS compounds or these new synthetic stimulants, new synthetic cannabinoids, new synthetic opioids, benzodiazepines — the list goes on and on. For the drugs of abuse they might certainly be useful, but not for these NPS compounds.

**Mr DIXON** — Okay. Yes. That is a form of differentiation. Thanks.

**Mr TILLEY** — Gentlemen, I genuinely thank you for the ongoing work that you do in this field. On a personal level it certainly gives significant assurance.

I want to have a bit of a conversation in relation to roadside testing and what knowledge base you may have about other world practices and things. I will put in the context that, yes, I was one of the state's first roadside drug testers and how they have gone now to POFT tests and things like that. There is public commentary nowadays in relation to actual impairment and these tests. We have seen some recent conversation about whether the driver at the time is actually impaired rather than just floating around coming off the back end of whatever chemicals they might be using. What needs to be done to establish that impairment at the time of being in control of a motor vehicle? When you are doing the SPCA or alcohol, it is very specific. We have come a long way in that, however, testing impairment, the level of impairment.

**Prof. WOODFORD** — I am not quite sure I understand the question. Are the methods of roadside testing of impairment then justified for testing for drugs on the basis of that?

**Mr TILLEY** — It is not about justification.

**Prof. WOODFORD** — Are they appropriate? Is that the question?

**Ms PATTEN** — Do they test for impairment or do they just test for the presence of a substance?

**Prof. WOODFORD** — First of all there needs to be a test for impairment at the roadside, but what we are doing is testing for the presence of the substance, and we have gazetted experts there that then interpret those

findings in the light of what is reported — that might be video evidence as well — about abnormal behaviour or impaired behaviour.

**Mr TILLEY** — Yes. Obviously some of the tests are for certain substances and all those sorts of things that are added on, but that is not the certainty that that is — —

**Prof. WOODFORD** — That would then be interpreted in the context of the drugs that are detected later.

**Dr GEROSTAMOULOS** — If I can add to that, there are different aspects of the Road Safety Act which cover some of those provisions. The impairment provision is actually covered by the taking of a blood sample and/or a urine sample in the event that that needs to happen. But blood certainly gives you an degree of whether someone is likely to be impaired. We have road safety experts who then provide opinions to Victoria Police as to the degree of impairment combined with the toxicology. That is one part of the Road Safety Act.

The other part is largely to do with whether these drugs are present or not. They are not about impairment. The random roadside drug testing — and Victoria Police conducts about 100 000 of these oral fluid tests at the roadside — is about the presence of the drug, and why is that? It is difficult to demonstrate from an oral fluid that someone is going to be impaired, like it is for blood. But what we do know is that if those drugs are present in oral fluid, they likely represent recent ingestion. That is an important point because if they are recently ingested they are likely to be drugs that will impair the driver in some capacity.

We do know, for example, that drugs like cannabis do not persist for greater than 24 hours in oral fluid. The devices at the roadside are not going to measure low-level cannabis users at the roadside post-24 hours, and you could argue that most of those psychoactive effects or detrimental effects on driving are within the first 24 hours of use.

We do know that for stimulants that period is longer, because there are different phases of stimulant use. So the police are only testing for cannabis and for stimulant use at the roadside, and the bulk of these positive tests are largely to do with methamphetamine these days. They are not about determining impairment. They are actually about the presence of the drug in the driver, which indicates a risk to the community and to the driver themselves. Having these drugs on board significantly increases your risk of having an accident.

There been a lot of research done, including by our organisation, which has provided many of the reports to government, in terms of the relative risk of these drugs when it comes to having an accident. We do know that illicit drugs such as methylamphetamine and cannabis do significantly increase your risk of having an accident. There are different parts of the Road Safety Act which cover impairment and the presence of the drug, which is really what the random roadside drug testing is about. Ultimately it is really about deterring drivers, saying, 'Look, if you're going to use these drugs and drive, one, it is a risk in terms of road safety, and two, the police have the capacity to be able to test for these'.

**Mr TILLEY** — Thanks for putting in clear, plain language.

**Mr DIXON** — That was good.

**Mr TILLEY** — It was very helpful, absolutely. I just want to go back very quickly to the conversation in relation to rapid toxicology service and how that would work. You were talking about specific types of resources and equipment. What type of equipment are we talking about that — —

**Prof. WOODFORD** — I could talk from a pathology perspective — —

**Mr TILLEY** — Please, yes.

**Prof. WOODFORD** — You would probably rather hear from the content expert here. My understanding is that we have a very sophisticated range of machines, but there are other types of equipment that I know exist elsewhere in the country and that we are soon to be getting, such as time-of-flight machines, which actually look at the molecular composition of substances being tested for and enable us in the setting of a library of standards that we know about to compare these substances — often they are new and slightly modified versions of previously existing drugs — and come up with a firm conclusion as to the type of drug detected.

**Dr GEROSTAMOULOS** — It is essentially a more sensitive instrument that can actually detect drugs based on their structure. All drugs have a particular structure and weight. Based on that structure and weight this instrument can identify the particular substance or narrow down the number of substances that it could be. It increases our own capacity to be able to test for these things. Most forensic laboratories around the country have one. We are getting one fairly soon, but what we want to do with that piece of instrumentation is provide some sort of a rapid service. In absence of that instrumentation we have already developed additional methods in our laboratory, so we are moving from the 130 compounds that we are currently testing for the coroner to 330-odd compounds as of next month. So we are already making headway into developing more advanced techniques.

However, even after we have detected all of these, what do they actually mean when we find one? That is the difficult bit. When we actually find one of these novel drugs, how do we interpret it in the context of a death and in the context of a clinical overdose? That forms part of the information that we can feed back to clinicians, to pathologists and to coroners to make recommendations about certain batches of drugs or certain types.

**Mr TILLEY** — So principally you are talking about getting these sorts of resources available. You were talking about the Austin and the Monash. What about regional areas and the whole of Victoria getting these matters expedited quickly so that that information is out there statewide?

**Prof. WOODFORD** — That is certainly a possibility. We are piloting this intervention, if you like, with those two centres. Having the clinical input there is really important — having clinicians that actually see the benefit in knowing early what drugs might exist in a particular patient. We will see how that pans out in terms of how it modifies treatments and how it shortens hospital stays, but ideally we could extend this across the state.

**Mr TILLEY** — Can you pluck a figure, just indicatively? What sort of money would the government be spending in getting this sort of data out, indicatively?

**Dr GEROSTAMOULOS** — You would need at least a couple of people to be in the laboratory essentially all the time to be able to provide that data back to the clinicians. If you want to have a sample from each of the major hospitals and regional Victoria, which is ideally what you would want to do, you would want to be able to courier those samples in and the cost of the analysis itself would depend on the number of drugs that we can detect or monitor. You have to buy reference materials for that. If you are going to have a fantastic screen of about 1000 drugs, you need those reference standards; otherwise you cannot get up and say that this is the material that you have actually detected. That is part of the problem.

In terms of resources, I am not quite sure. It certainly would be at least a few full-time staff and scientists in the laboratory plus the ability to courier these samples and report back. It is not difficult to do, but it does require some resources. I am not sure what the figure might be.

**Mr TILLEY** — I am certainly not trying to tie you down to a figure. You can see the references from this committee and those sorts of things. We are talking about a whole range of things, from safe injecting places to parties where there might be pill testing and those sorts of things. What we are discussing here about these types of facilities is imperative before you even really discuss anything else. You have to get this sort of information available for the whole thing before we can really talk about public policy on a whole range of other things. Would that be a fair statement?

**Dr GEROSTAMOULOS** — For this component of drugs, the novel drugs, but we do know a lot about drugs of abuse. Largely the issues are surrounding methamphetamines, cannabis, prescription opioids and other prescription drugs. While NPSs are certainly of interest, the majority of the issues surround the traditional drugs of abuse. I think Noel gave you some figures in terms of the prevalence of these drugs in our casework. Almost 40 per cent of our homicides involve a stimulant, and it is not an NPS. This is methamphetamine or cocaine. So it is really about that subset of drugs that we need to address.

Some of those things that you have been discussing here, we will certainly address those issues, but what we are talking about is providing a more holistic service about all drugs back to clinicians, to police, who do not know a lot about these things, so that when you get to court, which are the drugs that you are going to prosecute and how are you going to do that without having that background information? That is part of our scope along with providing these back to the coroner in a preventative way so that the coroner can then make recommendations about some of these drugs and their significance in terms of death in the community.

**Ms SULEYMAN** — Thank you very much for your presentation. My question is in relation to the Intergovernmental Committee on Drugs framework published in July 2014, a framework for a national response to new psychoactive substances. Part of that framework included the national drug monitoring system by the commonwealth. To your knowledge has that progressed since July 2014?

**Dr GEROSTAMOULOS** — I do know of the program that has, I think, largely been run out of the Australian Federal Police. It is to do with drug seizures, so where these drugs are actually detected from chemistry laboratories and forensic laboratories but not identified in cases that we deal with — so in death or clinical cases. They are largely to do with clan labs — clandestine laboratories — and the detection of these powders. Okay, so we have detected, let us say, one of these novel drugs. It goes onto the registry. But as far as I understand there is no link back to some of the clinical and forensic casework, which is really important.

**Ms SULEYMAN** — Okay, that makes it clear. My second question is: when you talk about the 24/7 rapid response toxicology service and also the national drug reference library in your report, would you be able to point to a country or an example where these two practices have actually worked effectively?

**Dr GEROSTAMOULOS** — There is not a rapid clinical toxicology service that I can point to, other than a couple of places — one in the UK and one in the US — where they provide some rapid testing back to their clinicians. But they were only done for studies. They are not a routine service that is provided, as far as I understand. There are limited toxicology services that are provided — so drugs of abuse. They might be the traditional five classic drugs of abuse but not a comprehensive screen, which is what we are proposing. And the second part, sorry?

**Ms SULEYMAN** — It included the library as well, having a national drug reference library.

**Dr GEROSTAMOULOS** — There are two significant libraries that I can point to. One is the United Nations Office on Drugs and Crime, and they have an excellent database of not only the traditional drugs of abuse but these new synthetic drugs. There is also the European Monitoring Centre for Drugs and Drug Addiction, otherwise known as the EMCDDA. They also have a database of drugs that they hold, which provides information back to European member countries about the relative dangers. They are not accessible easily by us unless you are a member or unless you actually input into those databases.

We are making some headway into accessing the United Nations database from a global perspective. I am part of an international group that is trying to feed back information into that database to get almost a global warning system which is available to most countries around the world. Let us say there is a batch of bad MDMA in Melbourne, where there is 10 deaths, or a bad batch in San Francisco, for example. Then they become global alerts that people can look to and say, 'There are a number of deaths associated with this particular drug or substance'.

**Ms SULEYMAN** — Is that part also of the World Health Organization?

**Dr GEROSTAMOULOS** — Yes. They are interrelated with the UNODC. The World Health Organization have their own expert committee on drugs, and they meet as a subset of the UN and then provide recommendations on drugs that they consider dangerous or should be scheduled accordingly.

**Ms SULEYMAN** — Excellent. Just one final question. It is really interesting that no other country has a 24/7 rapid response. That is very intriguing when you have such high level — and Australia is not the only country that sees a new substance each week. So it is very interesting that globally there does not seem to be investment or I suppose attention into a rapid response toxicology service.

**Prof. WOODFORD** — And this would put us ahead of the game really. I think it is surprising as you say, but if we are really going to be serious about understanding the effects of these drugs, we need that information early on in the process.

**Ms SULEYMAN** — That is right.

**Dr GEROSTAMOULOS** — What we also have to admit to is the fact that many clinicians do not see the need to have this sort of data. They are happy to treat patients based on their symptoms and the way that they present in hospital without the need for additional toxicology information, which is appropriate. However, what we are arguing is that we want to build a database of knowledge. We want to understand what these drugs do

and how potentially dangerous they are when you have got these two substances on board. We know that deaths from overdose do occur and often it takes some time to determine what those drug agents are and whether they are causative or not or have contributed to the death, so what we want to do is build that repository of information which then can better inform clinicians and also the information or the dangers around these drugs so that drug users actually become aware that, you know, 'We've had 10 deaths due to this particular drug and that this is not something that people should be taking'.

**Ms SULEYMAN** — And it makes sense, does it not? I suppose it is the foundations. You have got to get the foundations right.

**Prof. WOODFORD** — Exactly.

**Dr GEROSTAMOULOS** — And these drugs are not drugs that you can evaluate in the traditional sense. So the old drugs of abuse like cocaine, methamphetamine, cannabis have been really well studied. They have been given clinically. There have been observations. We know what the blood measurements are.

With these drugs you cannot ethically give any of these NPSs in that fashion to be able to determine relative toxicity, so all we have now are anecdotal reports from drug users without really some substantial information from clinicians about some of these observed effects, which is where the rapid toxicology service comes in. I am not saying there are not other toxicology services which are provided to clinicians; however, it is not in a comprehensive way and not in a rapid way, which is what we are talking about.

**Mr THOMPSON** — Dimitri, you are noted in my notes here as the chief toxicologist and head of forensic sciences. What academic background is required for that role?

**Dr GEROSTAMOULOS** — I have got a PhD in forensic toxicology at Monash, and I have also got a bachelor of science in pharmacology and chemistry.

**Mr THOMPSON** — There has been some promotion of the idea of pill testing at music festivals. As a subset of that proposition to what extent do you think a sample pill would represent the full batch that is produced?

**Dr GEROSTAMOULOS** — In my view, I do not think it would. It depends significantly on whether that batch is — —

I mean, there is no quality control with any of these drugs. You do not know that if you get a particular batch that contains this particular agent it will also contain the same amount in a subsequent batch or in a comparative batch. These drugs are not manufactured to a pharmaceutical standard. Often there is a range of impurities, a range of other drugs that are unknowingly produced as part of the synthesis surrounding these drugs. So you can get differences in batches. While they might contain ideally the one agent, they may contain a number of agents, and often agents that are not thought to be there, which is often the way that these drugs are presented.

We do know from some of our work that we have been doing with the coroner that these drugs are not purported to be, for example, methamphetamine. They are different drugs. That was identified by the police certainly when they did their examination of those recent deaths in Prahran. We have also identified a number of different drugs in those cases, which are subject to the coroner handing down a finding on them.

**Mr THOMPSON** — Are you of the view that if there was a pill testing procedure with sophisticated equipment that it would then be reasonable to give a certificate to a prospective person or a prospective user of a tablet? Is that a reasonable thing to do within society?

**Dr GEROSTAMOULOS** — That is a good question. I am not sure that the agency conducting the testing would give a certificate. They would probably tell you whether the drug that you are taking is possibly the one that you bought. 'Is it MDMA?'. 'No'. We have heard from our colleagues at the ADF that more than half of those who are told that it is not a drug will actually dispose of that drug and then go and purchase something else, so they do get the information and make an informed decision. However, half of them will take the pill anyway. They have already spent that money so they will take that pill, even if it is unidentified and not purported to be that particular drug. So could you hand over a certificate and say, 'This is what it is'? Well, what about the drugs that are not detected? That is the other issue. What about the drugs that you have not picked up that are also contained within that pill? That is part of the issue in terms of getting a thorough pill testing

program up and running. Which drugs? What about the ones that you cannot test for? What does that mean? Also, how dangerous is one compared to another?

We know that there are different potencies. One drug is pretty useless, but the other drug is 100 times more toxic than, say, methamphetamine. How do you determine that? We do not know, actually. We just do not know. We do not know how potent these drugs are. We have got some scientific studies that deal with the administration of these drugs to animals. They are not given to humans. We do not know what the relative toxicity of these are. We can only go by currently what has been reported to the EMCDDA or to the UN or to the drug forums, which are not all that reliable.

**The CHAIR** — I just want to tease out one thing. In regard to pill testing obviously a lot of submissions that came to this inquiry from members of the public said, 'We'd like to have pill testing'. I do not know whether their views are realistic in terms of whether it is going to solve a whole lot of problems, so I am interested to know — especially since we have got you here and you have got your connections to the coroner's office — how many of the deaths that we have seen at rave parties or at music events in recent years might have been prevented with the sort of equipment you might be able to get to those venues for pill testing?

**Prof. WOODFORD** — A difficult question to answer.

**The CHAIR** — I know, but you are in the best position to give — —

**Prof. WOODFORD** — We would need to tease out how many of those deaths actually were the result of toxic substances. There is a subset of deaths in young people that are not caused by drugs, and we do a toxicology screen, of course, to try and exclude the possibility of drugs. But the point I was trying to make when I did my introduction was that sometimes we do not know what we are testing for, and just because we have tested for drugs and have not found them does not mean that they were not there. So there is a bit more work that needs to be done. So the setting for a death at a rave party suggests drugs, but we have still got a lot more knowledge to get in terms of what drugs are out there.

**Dr GEROSTAMOULOS** — Half of the drug-related deaths that we do see are from prescription drugs, and half of those are illicit drugs. The majority of those involving illicit drugs are the traditional drugs of abuse. There are fewer deaths involving NPS compounds, but that may be because we are underreporting them or not detecting them or that they are being converted or changed in the post-mortem period to things that we cannot pick up. There might be a degree of underreporting in terms of their contribution to death, but by far most of these drug-related deaths are from the traditional drugs of abuse and of course interrelated with prescription drugs

**Ms PATTEN** — And the drug household survey has found actually a reduction in people taking the new psychoactive substances.

**Dr GEROSTAMOULOS** — That may be the case. That is largely because people take them and find them not to be as good as the traditional drugs or have a lot more unwanted side effects. But we could not determine from those deaths whether if you had had pill testing at a particular party, you would have prevented those deaths. That is not something we can directly correlate with our own findings. There may be some merit in testing those.

So, for example, if we hypothetically are saying that we are the agency that is providing that pill testing, we can only test for about 140 of those and we know there are some other 500 of those compounds that we cannot test for. So that would be a problem in terms of saying, 'This pill contains this particular drug, but we just do not know what else it may contain'. That is the difficulty with pill testing. So there are pros and cons to that. There are some good European papers that point to the effectiveness of pill testing, but there are still some holes in the approach.

**The CHAIR** — I am aware that we have gone over time, but if there are some pressing questions — —

**Ms PATTEN** — I just want to clarify quickly: on the roadside testing, are you saying that cannabis would not show up 24 hours after someone had used it?

**Dr GEROSTAMOULOS** — The police use a particular device at the roadside. If that user came to our laboratory, we would pick up those low-level metabolites in their oral fluid or their low-level drug

concentration. But the police at the roadside are only using a device largely for deterrence, and it has a cut-off at where it will detect a drug. So after a day those devices are not going to pick up a driver that is positive unless they have recently used. So if they have used within the last 24 hours, they are largely detectable, but beyond that they are not going to be detected at the roadside.

**Ms PATTEN** — When we look at drug-related deaths, we know that prescription drugs kill more people than any other drug combined, but we do not test for people driving with opioids or benzodiazepines.

**Dr GEROSTAMOULOS** — We do under a certain section of the Road Safety Act. So where a driver is considered impaired — —

**Ms PATTEN** — But not as a random test.

**Dr GEROSTAMOULOS** — No, and it is not possible to easily do that. So, for example, if you wanted to test for, let us say, drivers on codeine, which would be an absolute nightmare to be honest with you, there is no evidence that codeine increases your risk of having an accident. Once people become stabilised on their prescription medication, they largely do not exhibit a lot of the side effects which may be detrimental to their driving. Once they become stabilised they are able to function on an antidepressant, on an antipsychotic, perhaps less so on a benzodiazepine, but if they are taken at night, they are still able to drive a car the next day. So there are difficulties.

Those drugs have not been shown to have a significant increase in risk in terms of their contribution to road deaths, so that is largely why they are not tested. But the illicit drugs are easy. They are illicit, they increase your risk of having an accident, and currently we are only testing for methamphetamine, ecstasy and cannabis. There may be the provision in the future to test for cocaine or, specifically, the marker of heroin, which is 6-acetylmorphine. That is not easily done at the roadside. There are certain scientific limitations of doing that testing.

**Mr THOMPSON** — A quick point of clarification: in 64 per cent of homicides there is the presence of a drug; I was not sure whether that is in the victim or in the suspect.

**Mr WOODFORD** — That is looking at it from the victim's perspective — so the people who come to our attention and undergo a medico-legal examination at the facility in Southbank.

**Dr GEROSTAMOULOS** — That is the deceased's analysis essentially. It is interesting that the prevalence is so high.

**The CHAIR** — We have gone over time. Of course we started a little bit later too, but there is certainly a lot of very interesting information — both the information you provided in the written submission and in our discussion. There may be some other things we will want to follow up afterwards, so we will leave you on notice with that, but thank you very much for coming along this morning.

**Witnesses withdrew.**