To the Committee

For consideration on approaches to reduce illicit drug use and its effects on the community.

Firstly, my experience comes from being the father of a Meth (polysubstance user) addict and the experience I have had when trying to seek treatment for him. The system here in Western Australia is a bit of a mine field which puts up all sorts of restrictions when it comes to trying to get an addict into treatment. But firstly, let's look at what Meth does to the human brain.

I reference this information from the Australian web site Cracks in the Ice.

THE EFFECTS OF CRYSTAL METHAMPHETAMINE ON THE BRAIN

Ice (crystal methamphetamine) triggers the release of chemicals in the brain. These chemicals are also released during pleasant activities - like eating and sex – and they are responsible for making us feel alert and excited. But flooding the brain with these chemicals can cause on 'overload' in the system, which is why some people can't sleep for days or may experience symptoms of psychosis after taking ice.

Ice also stops the brain from reabsorbing these chemicals which lowers their supply in the brain. This is why people often feel low or irritable for 2-3 days after taking ice.

Over the long term, regular use of ice can damage or destroy certain receptors in the brain — sometimes to a point where users no longer feel normal without having ice in their system. Even after people have stopped using ice it can take a long time before these brain changes return to normal.

THE EFFECTS OF METHAMPHETAMINE (INCLUDING ICE) ON THE BRAIN

Methamphetamine has been shown to affect three different chemical messenger (neurotransmitter) systems in the brain:

1. **Dopamine** is associated with reward seeking behaviour. The use of methamphetamine causes an initial increase in dopamine in the brain, associated with a feeling of Euphoria. However, long-term use is associated with declines in dopamine, which can be responsible for feelings of losing control and compulsive drug taking.

2. **Serotonin** is responsible for learning and memory. Use of methamphetamine causes an initial increase in serotonin in the brain, related to an increased feeling of wellbeing. Long-term use causes serotonin levels in the brain to decline, related to changes in behaviour and mood.

3. **Noradrenaline** is a chemical messenger responsible for arousal and motivation. Use of methamphetamine causes an initial increase in noradrenaline, associated with an increased alertness and attention. However, long-term use can deplete noradrenaline, related to decreased alertness and attention.

Long-term heavy use of methamphetamine, including ice, can change the structure and functions of the brain. Changes can result in abnormal brain tissue (grey and white matter), inflammation in the brain, and deficits in chemical messenger systems described above. These abnormalities have been linked to poor brain functioning particularly in relation to self-control, decision-making and being able to adapt thinking.

Other effects related to brain changes can include:

- impaired motor skills
- cognitive decline
- increases in anxiety
- violent behaviors
- hallucinations
- delusions
- depression

It should be noted that the effects outlined above come from a number of studies examining both human and animal brain changes after methamphetamine use. While these effects have been observed we need more studies to follow humans over a long time to confirm these effects, taking into account the use of other drugs and conditions, such as mental health problems.

The last note at the bottom of the page tells us that studies are still being done on the subject of Meth so the current treatment ideas are still being developed. This is backed up by the studies that I have looked at with varied results and mixed messages.

The one common thread is that the longer a patient stays in Rehabilitation the better their chance of recovery. Currently most models for rehabilitation say that the treatment time is anywhere between 28 days to 90 days. But again, this model is based around Heroin and Alcohol Addiction. The conclusion could be that our current treatment regimes may be now out dated.

Western Australia has observed over the last 5 years an increase in violence and other criminal acts relating to Meth and takes up resources and increases our costings in controlling the problematic use of Meth; as follows,

Information has been referenced from the Australian Institute of Criminology.

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Australian methamphetamine user outcomes

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The overall costs of serious and organised crime related illicit drug activity were estimated to be around $4.4b in 2013–14 (ACC 2015). This cost estimate takes into account health impacts of illicit drug use, money lost to the economy through international payments for illicit drug importation and lost output of drug users. Approximately 3.2 percent of the general population, or about one in 30 people aged over 14, reported recent illicit use of methamphetamines in the most recent published findings from the National Drug Strategy Household Survey (AIHW 2005). Since that time, there has been an increase in the use of crystal as the preferred form of the drug. Between 2007 and 2013, the proportion of methamphetamine users who most often used crystal methamphetamine increased from just over a quarter (27%) to half (50%; AIHW 2014). The total number of methamphetamine users has also risen in recent years, at least within particular sections of the population. From 2013 to 2014, according to the Illicit Drug Reporting System (IDRS), the number of injecting drug users who used methamphetamine rose six percentage points (55% in 2013 *cf* 61% in 2014; Stafford & Burns 2015).

There was an 11 percentage point increase in methamphetamine use by Australian police detainees, from 23 percent in 2011–12 to 34 percent in 2013–14 (Coghlan, Gannoni, Goldsmid, Patterson & Willis 2015), and a 13 percentage point increase in methamphetamine use by prison entrants, from 37 percent in 2012 to 50 percent in 2015 (AIHW 2015a). As the number of methamphetamine users, and crystal users in particular, increases, it can be expected that the impact of methamphetamine use on Australia will also rise.

Impact on the criminal justice system

Police detainees interviewed for the Drug Use Monitoring in Australia (DUMA) program were asked whether particular drugs had contributed to the offences for which they were detained. Using these data, 33 percent of crime could be attributed to methamphetamine use (Payne & Gaffney 2012); that is, of those police detainees who reported using methamphetamines in the 30 days prior to interview, one in three indicated methamphetamine use had contributed to the offences for which they were being detained by police. Of all police detainees interviewed, 6.2 percent attributed their offending to methamphetamines, regardless of whether they had used them in the previous month. Given that methamphetamine use in the Australian police detainee population has risen since 2012, it is important to examine whether more police detainees now attribute their offending to these drugs.

Impact on the healthcare system

The impact of methamphetamine use on the healthcare system is significant and includes ambulance costs, emergency department presentations, hospital admissions, mental health treatment and treatment and counselling for drug use. Between 2011–12 and 2012–13, ambulance attendance for incidents related to crystal methamphetamine use increased by 88 percent in metropolitan Melbourne and by almost 200 percent in regional Victoria (Lloyd, Matthews & Gao 2014). At the same time there was a significant increase in the proportion of cases co-attended by police (in both metropolitan and regional areas), and in cases where the patient was transported to hospital (in metropolitan regions). This suggests that ambulance attendance for methamphetamine use is becoming more resource-intensive, involving multiple frontline emergency services and hospital emergency departments. Hospital separations for amphetamine-related conditions have increased steadily since the 1990s and according to the most recently available data were at their highest in 2011–12, after a steep increase over the previous three years (Roxburgh & Burns 2013). Fatal overdoses in Victoria involving methamphetamines increased by 250 percent between 2010 and 2013 (Westmore et al. 2014).

A Possible Treatment Plan

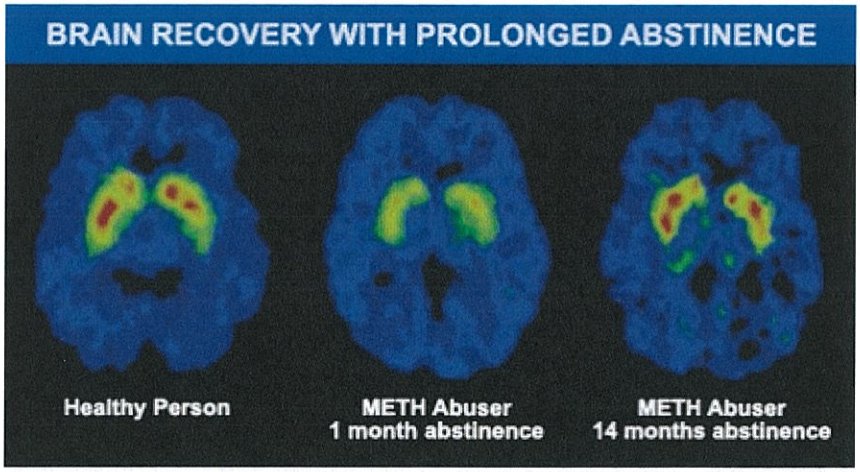
1. It is my belief that we need to regulate the Rehabilitation System so that all providers need to be able to provide transparency around key performance indicators including but limited to; cost of program, philosophy, entry requirements and expected recovery rates, underpinned by the evidence. We have many private providers in the market that are charging large sums of money without any real published rates of success. Why? Because families are unclear about the effectiveness of available programs and some assume that they will have greater success in aiding their loved one in a higher cost program

2. Western Australia requires accessible detoxification centre where a patient can be medically assisted to reduce the painful and psychological effects of withdrawal. This could be done over period of time deemed by medical professionals for patient safety.

3. Heavy Meth and polysubstance users would need to have a brain scan to see if there has been any damaged to the brain due to the use of Meth. As we know Meth is manufactured using chemicals that are available in the open market and are often toxic. The following explains describe what Meth can do to the Human Brain as previously explained but it is an important point to understand when designing an effective treatment plan.

Information referenced from the National Institute on Drug Abuse.

> These and other problems reflect significant changes in the brain caused by abuse of methamphetamine. Neuroimaging studies have demonstrated alterations in the activity of the dopamine system that are associated with reduced motor speed and impaired verbal learning. Studies in chronic methamphetamine abusers have also revealed severe structural and functional changes in areas of the brain associated with emotion and memory, which may account for many of the emotional and cognitive problems observed in chronic methamphetamine abusers.



Recovery of Brain Dopamine Transporters in Chronic Methamphetamine (METH) Abusers

Methamphetamine abuse greatly reduces the binding of dopamine to dopamine transporters (highlighted in red and green) in the striatum, a brain area important in memory and movement. With prolonged abstinence, dopamine transporters in this area can be restored.

Methamphetamine abuse also has been shown to have negative effects on non-neural brain cells called microglia. These cells support brain health by defending the brain against infectious agents and removing damaged neurons. Too much activity of the microglial cells, however, can assault healthy neurons. A study using brain imaging found more than double the levels of microglial cells in former methamphetamine abusers compared to people with no history of methamphetamine abuse, which could explain some of the neurotoxic effects of methamphetamine.

Some of the neurobiological effects of chronic methamphetamine abuse appear to be at least partially reversible. In the aforementioned study, abstinence from methamphetamine resulted in less excess microglial activation over time, and abusers who had remained methamphetamine-free for 2 years exhibited microglial activation levels similar to the study's control subjects. Another neuroimaging study showed neuronal recovery in some brain regions following prolonged abstinence (14 but not 6 months). This recovery was associated with improved performance on motor and verbal memory tests. But function in other brain regions did not recover even after 14 months of abstinence, indicating that some methamphetamineinduced changes are very long lasting. Moreover, methamphetamine use can increase one's risk of stroke, which can cause irreversible damage to the brain. A recent study even showed higher incidence of Parkinson's disease among past users of methamphetamine.

In addition to the neurological and behavioral consequences of methamphetamine abuse, long-term users also suffer physical effects, including weight loss, severe tooth decay and tooth loss ("meth mouth"), and skin sores. The dental problems may be caused by a combination of poor nutrition and dental hygiene as well as dry mouth and teeth grinding caused by the drug. Skin sores are the result of picking and scratching the skin to get rid of insects imagined to be crawling under it.

4. With the above possibilities it is reasonable to presume that long term rehabilitation will be needed. The term could be anywhere between 6 months to 2 years again depending on the severity of the addiction.

5. Once detoxification has started to take effect and social and emotional progress has been made, including the return of effective cognitive and rational thinking then retraining can begin. This may include; improvements of body functioning, teaching and re- learning skills. Assistance from social services guidance on the skills of how-to manager one's life after rehabilitation would be a requirement. Psychiatric intervention to treat for underlying mental trauma that may have been suffered by the patient can also be delivered at this stage.

6. When a Meth or polysubstance user has finished their prison sentence what happens once, they are released? If leaving the facility means no place to live or having to return to their previous life situation then the outcome could be poor. Possible planning on accommodation will need to be considered. With the help of support agencies, they can receive continued support until such time that employment and proper re-entry into society is achieve.

So How Do We Implement Rehabilitation and Avoid Prison.

Looking at the Portuguese Model we would have to consider the radical plan of decriminalising drugs against the user. This would include what is an amount that is considered safe that can be carried by the user before it becomes a criminal matter.

We would need to consider this carefully when it comes to Meth and maybe a scaling order for other drugs such as marijuana, ecstasy and heroin.

The Portuguese model as I understand it was set up due to the amount of heroin overdoses and the increasing amount of imprisonments that were costing the Portuguese Government an increasing and unstainable amount money to control. Portugal has not felt the effects of Meth in their country so our circumstances are different.

1. All under age problematic patients would not have the choice to turn down rehabilitation. The power would be returned to the legal guardian/parents to refer their dependant for treatment with the input of police a medical professional any other professional deemed acceptable by law. They would be required to complete the programme offered to them. Early intervention can reduce the amount of people that could continue on to harden drug use. This would also provide a number of savings in the current services required in processing young problematic users.

2. Problematic adult patients would be referred by police to front of a committee to discuss their usage to determine the seriousness of the usage. The committee could be made up of a drug specialist, lawyer, psychiatrist and a rehabilitated addict or other professionals deemed acceptable by law. At this point it can be pointed out to the patient what the outcome could be if they continue to use. The out come could be a fine, community work and education or rehabilitation. Again, creating savings in the services currently used to control adult problematic user.

3. Emergency Departments could make reports of multiple presentations by an individual. Where by that person would be required after Detoxification and mental health review to appear in front of the committee to discuss their drug habit and dependency level. After that meeting the outcomes could be the as described in section 1 and 2.

4. Police would have the right to seize what ever drug is found on a user without requiring that person to be recorded for a criminal offence if the amount is determined to be under the legal limit (amount to be decided). Their name could be recorded to create a history in case that persons usage increases over time. These records could be given to the committee as evidence if that person is required to front the committee at a future date.

5. Reduce the stigma against drug use and treatment. Currently most information displayed to the public has a negative connotation through television or radio advertising. Instead of damming a person's situation in the use of drugs we could move towards a supporting view. Openly encouraging people that may feel that their use has become a problem to attend a clinic and discuss a plan to help them reduce their use or stop it all together. Encourage family and friends to talk to their loved ones of effect their usage is coursing them and direct the user towards seeking treatment to reduce or stop their usage.

6. Increase funding to Government Rehabilitation Centres to upgrade their facilities so that they become more appealing to the patient entering the facility. Plus, funding to increase the number of beds available and professional staff to service the uptake of patients requiring treatment. Waiting times are one of the biggest drawbacks for people who are ready to receive treatment but can not be placed into treatment quickly.

Criminal Enforcement

We can not arrest our way out of this problem as drugs have been around and used for thousands of years. All we can do is start treating it as a Health Issue and reduce the amount of people that use from becoming problematic.

From the last survey in 2016 3.1 million people in Australia have used illicit drugs over a 12-month period. If we took a legal stance and were to arrest them all it would cost the Australian tax payer $372,000,000 ,000 to keep them in prison for one year. It is a futile and costly exercise that would send us broke. We would do better by diverting these people into a Health Care system than sending them to prison where they receive very little if any treatment for their problem and in some cases escalates the problem .

Referenced from

National Drug Strategy Household Survey (NDSHS) 2016—key findings

The number of people aged 14 or older illicitly using drugs in Australia is increasing

In 2016, about 8.5 million (or 43%) people in Australia aged 14 or older had used an illicit drug in their lifetime (including misuse of pharmaceuticals) (Table 24). Around 3.1 million (or 15.6%) had illicitly used in the last 12 months and 2.5 million (12.6%) had used an illegal drug not including pharmaceuticals (Table 25).

Although the proportion using any illicit drug did not significantly increase from 2013 to 2016, there has been a gradual increase in use since 2007 (from 13.4% to 15.6%) and the number of people illicitly using drugs has increased from about 2.3 million to 3.1 million.