Interactions between commonly prescribed mental health medications and licit and illicit drugs:

Harm Reduction Resources

Queensland Network of Alcohol and Other Drug Agencies Ltd

45.6 million

Mental health-related medications dispensed in 2022-2023

4.8 million

people (18% of Australians) filled a mental health-related prescription in 2022-2023

85%

of mental health-related prescriptions dispensed were prescribed by GPs

Project Aims

- Addressing a lack of accessible information around prescription and recreational drug interactions
- Encouraging dialogue between healthcare professionals and patients about their drug use.

2015 Resources

OPIOIDS & MOOD STABILISERS

A resource for health professionals

A BIT ABOUT MOOD STABILISERS (ANTICONVULSANTS)

Mood stabilisers are used in the treatment of bipolar disorder. Ideally, a mood stabiliser should treat the symptoms of mania and depression and prevent the recurrence of a manic or depressive episode (maintenance). The three mood stabilisers differ in their ability to treat these components of bipolar disorder. Valproate and carbamazepine are effective in acute mania and maintenance, but less effective in bipolar depression. Conversely, lamotrigine may have advantages in bipolar depression but has little efficacy in acute mania. The anti-manic effects of valproate occur rapidly, while those of carbamazepine (and lithium) are delayed several weeks.

The mechanism of action of mood stabilisers is poorly understood. They appear to dampen down neuronal firing by increasing the activity of GABA (GABA-aminobutyric acid), the brain's key inhibitory neurotransmitter. They may also inhibit the release of the excitatory neurotransmitter glutamate, modulate dopamine and serotonin and perform neuroprotective actions.

SOME OF THE SIDE EFFECTS

The side effects of mood stabilisers are generally drug-specific, although nausea, dizziness, headache and unsteadiness are common to all three. Other common adverse effects of valproate include weight gain, lethargy/sedation, abnormal liver function, tremor, memory impairment and alopecia. Rare but serious side effects include liver failure, pancreatitis and polycystic ovarian syndrome.

Carbamazepine is commonly associated with weight gain, lethargy/sedation, confusion, blurred/double vision, benign hyponatraemia, benign leucopenia and rash. Rarely, patients can experience serious blood disorders, hepatitis, or potentially life-threatening skin reactions.

Lamotrigine tends to be better tolerated than valproate and carbamazepine. Approximately 10% of people develop a rash during the first four months of treatment. These are usually benign but may be life threatening (e.g. Steven-Johnson syndrome). The appearance of a rash may require termination of treatment.

All mood stabilisers have been associated with an increased risk of suicidal ideation and behavior. Using valproate or carbamazepine during the first trimester of pregnancy increases the risk of spina bifida and other neural tube defects in the foetus. Lamotrigine is likely safer during pregnancy but the precise risks are uncertain.

FOR EXAMPLE:

- Carbamazepine
- Lamotrigine
- Valproate

The information provided in these fact sheets are a guide only. We recommend speaking with your GP or prescriber about your individual circumstances.

IN THE CASE OF AN EMERGENCY, DIAL 000

For more information visit www.qnada.org.au

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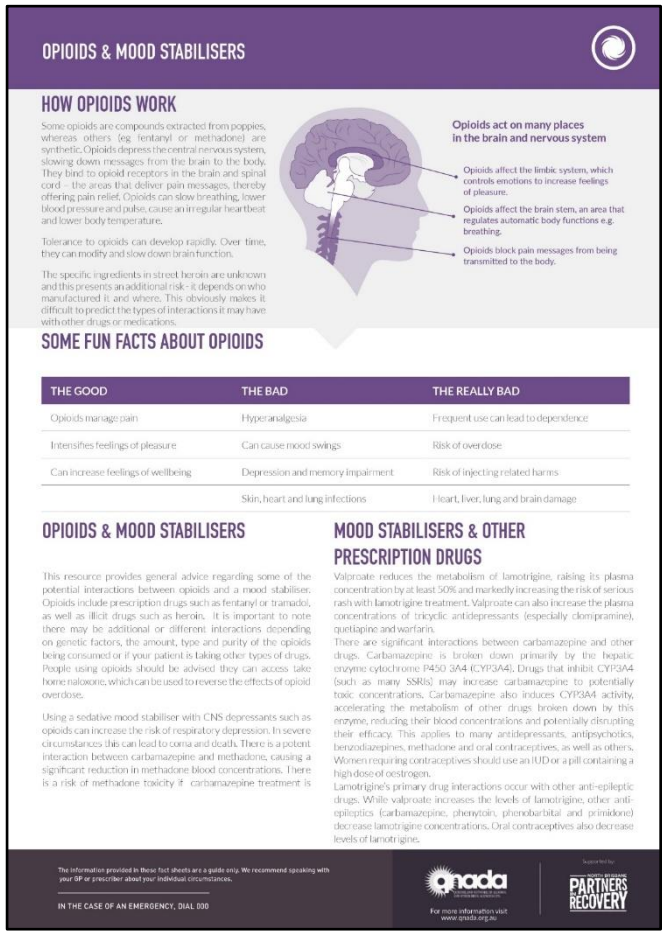

OPIOIDS & MOOD STABILISERS

HOW OPIOIDS WORK

Some opioids are compounds extracted from poppies, whereas others (eg fentanyl or methadone) are synthetic. Opioids depress the central nervous system, slowing down messages from the brain to the body. They bind to opioid receptors in the brain and spinal cord – the areas that deliver pain messages, thereby offering pain relief. Opioids can slow breathing, lower blood pressure and pulse, cause an irregular heartbeat and lower body temperature.

Tolerance to opioids can develop rapidly. Over time, they can modify and slow down brain function.

The specific ingredients in street heroin are unknown and this presents an additional risk - it depends on who manufactured it and where. This obviously makes it difficult to predict the types of interactions it may have with other drugs or medications.

Opioids act on many places in the brain and nervous system

- Opioids affect the limbic system, which controls emotions to increase feelings of pleasure.
- Opioids affect the brain stem, an area that regulates automatic body functions e.g. breathing.
- Opioids block pain messages from being transmitted to the body.

SOME FUN FACTS ABOUT OPIOIDS

THE GOOD	THE BAD	THE REALLY BAD
Opioids manage pain	Hyperanalgesia	Frequent use can lead to dependence
Intensifies feelings of pleasure	Can cause mood swings	Risk of overdose
Can increase feelings of wellbeing	Depression and memory impairment	Risk of injecting related harms
	Skin, heart and lung infections	Heart, liver, lung and brain damage

OPIOIDS & MOOD STABILISERS

This resource provides general advice regarding some of the potential interactions between opioids and a mood stabiliser. Opioids include prescription drugs such as fentanyl or tramadol, as well as illicit drugs such as heroin. It is important to note there may be additional or different interactions depending on genetic factors, the amount, type and purity of the opioids being consumed or if your patient is taking other types of drugs. People using opioids should be advised they can access take home naloxone, which can be used to reverse the effects of opioid overdose.

Using a sedative mood stabiliser with CNS depressants such as opioids can increase the risk of respiratory depression. In severe circumstances this can lead to coma and death. There is a potent interaction between carbamazepine and methadone, causing a significant reduction in methadone blood concentrations. There is a risk of methadone toxicity if carbamazepine treatment is

MOOD STABILISERS & OTHER PRESCRIPTION DRUGS

Valproate reduces the metabolism of lamotrigine, raising its plasma concentration by at least 50% and markedly increasing the risk of serious rash with lamotrigine treatment. Valproate can also increase the plasma concentrations of tricyclic antidepressants (especially clomipramine), quetiapine and warfarin.

There are significant interactions between carbamazepine and other drugs. Carbamazepine is broken down primarily by the hepatic enzyme cytochrome P450 3A4 (CYP3A4). Drugs that inhibit CYP3A4 (such as many SSRIs) may increase carbamazepine to potentially toxic concentrations. Carbamazepine also induces CYP3A4 activity, accelerating the metabolism of other drugs broken down by this enzyme, reducing their blood concentrations and potentially disrupting their efficacy. This applies to many antidepressants, antipsychotics, benzodiazepines, methadone and oral contraceptives, as well as others. Women requiring contraceptives should use an IUD or a pill containing a high dose of oestrogen.

Lamotrigine's primary drug interactions occur with other anti-epileptic drugs. While valproate increases the levels of lamotrigine, other anti-epileptics (carbamazepine, phenytoin, phenobarbital and primidone) decrease lamotrigine concentrations. Oral contraceptives also decrease levels of lamotrigine.

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IN THE CASE OF AN EMERGENCY, DIAL 000

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Updating Process

- Keeping information relevant to trends in mental-health medication prescribing and drug use
- Process based around iterative consultation with reference group of subject matter experts

Reference group

- Cameron Francis (The Loop)
- Leigh Crouch (ADIS)
- Jeremy Hayller (Queensland Health)
- Tim Piatkowski (Griffith University)
- Paul Mbasu (Redland Hospital)
- Emma Kill (QuIVAA)
- Brooke Walters (QuIVAA)
- Tonya Fuschtei (QAIHC)

2024 Resources

Stimulants & SSRIs or Other Antidepressants

About selective serotonin reuptake inhibitors (SSRIs)

These drugs are the most frequently prescribed treatments for moderate-severe depression and anxiety disorders. They can also be used for other conditions such as eating disorders, obsessive-compulsive disorders, PTSD and somatic symptom disorder. These drugs are the favoured pharmacological intervention due to their proven efficacy, tolerability, safety in overdose. While commonly referred to as SSRIs, this resource also covers a few similar drugs which, while very similar, are not technically SSRIs.

Depression and anxiety are very complex conditions - they can have many different causes and these causes can differ from person to person. As a result, scientists don't completely understand the changes in the brain that cause or contribute to these disorders.

However, most scientists agree that serotonin - a neurotransmitter involved in regulating your mood, emotions, sleep and appetite - probably plays a role in depression and anxiety. These drugs largely work to increase the level of serotonin in your brain.

This class of antidepressants have other effects on the brain that occur after you've been taking them for several weeks. For example, SSRIs can increase the formation of new neurons, and this also seems to be important in reducing depression and anxiety. These delayed effects on the brain may explain why these drugs can take a few weeks to work properly.

Some of the side effects

These drugs can have a number of side effects, including nausea, dizziness, headaches and weakness. They can also affect sexual function. At first you can feel more anxious than normal and it may take several weeks to start to feel better after commencing antidepressant treatment. Most importantly – tell your doctor straight away if you feel more depressed or have suicidal thoughts after starting antidepressant treatment.

For example:

SSRIs:

- Citalopram (Cipramil)
- Escitalopram (Lexapro)
- Fluvoxamine (Luvox)
- Fluoxetine (Prozac, Lovan)
- Paroxetine (Aropax)
- Sertraline (Zoloft)

Other:

- Agomelatine (Valdoxan)
- Reboxetine (Edronax)
- Vortioxetine (Brintellix)

You may also get certain side effects if you stop taking your medication suddenly. This is called 'SSRI-discontinuation syndrome'. If you plan to stop taking your medication, it's a good idea to work out a plan with your GP, prescriber or health professional.

SSRIs or other antidepressants and other prescription drugs

These drugs can interact with other prescription drugs that increase the level of serotonin in the brain, which can lead to serotonin toxicity (or serotonin syndrome). This potentially fatal condition produces a variety of symptoms, including mental state changes (confusion, hypomania, agitation), autonomic effects (hyperthermia, sweating, tachycardia, fever) and neuromuscular symptoms (clonus, hyperreflexia). Caution should be used when combining these drugs with other serotonergic drugs. These include other antidepressants (e.g. MAOIs, TCAs), certain opioids (tramadol, fentanyl), dapoxetine and St. John's Wort.

There is an association between SSRIs and gastrointestinal bleeding. This effect may be potentiated through the use of aspirin and NSAIDs in combination with SSRI.

qnada A harm reduction resource by QNADA. For more information, visit qnada.org.au Stimulants & SSRIs

How stimulants work

Stimulants include drugs like cocaine, amphetamines, and ecstasy (MDMA). These drugs make you feel more alert and confident, give feelings of wellbeing, and heighten concentration. However, as the high subsides you can start to feel tired, mildly depressed, nauseous, and grumpy.

These drugs act on your central nervous system (CNS). Cocaine and amphetamines flood your brain with dopamine, while ecstasy (MDMA) acts on dopamine, serotonin, and noradrenaline.

The specific ingredients in the drugs are often unknown, which presents the greatest risk – it depends on who manufactured them and where. It is often the case that you don't know what you are getting, and this obviously makes it difficult to predict the types of interactions a stimulant may have with other drugs or medications.

Some facts about stimulants

Sought-after effects:

- Feelings of wellbeing and heightened concentration
- Increased energy and confidence
- Feelings of alertness, strength, love, and intimacy

Potential risks:

- Anxiety or panic can be exacerbated
- Can trigger feelings of depression, particularly during come down which can last for several days
- Dehydration, increased body temperatures, difficulty eating and malnutrition

Potential harms:

- Heart problems, particularly related to increased blood pressure & heart rate
- Increases the likelihood of stroke and can lead to issues like psychosis and other prolonged mental health problems
- Can lead to tolerance and dependence and an increase in anxiety or disrupted sleep patterns

What happens when you take stimulants and a SSRI together?

This resource provides general advice regarding some of the potential side effects of using stimulants and SSRIs together. It is important to note there may be additional or different interactions depending on genetic factors, the amount, type and purity of the stimulants you are consuming or if you are taking other types of drugs. As these resources provide general advice only, please speak with your GP, prescriber or health professional for more information about potential interactions and impacts.

Like SSRIs, ecstasy (MDMA), amphetamines and cocaine increase the amount of serotonin in your body. If you take stimulants and an SSRI together you can overload your body with serotonin, leading to serotonin toxicity. This is a serious condition with symptoms such as confusion, agitation, sweating, fever, increased heart rate and muscle spasms. In some cases, serotonin toxicity can be fatal.

In some cases when a person is taking an SSRI they have found the effects of ecstasy to be suppressed, so they take more of the drug, which increases the risk of overdose or serotonin toxicity.

In addition to this, SSRIs can also make it harder for your body to process cocaine. Because it has to work harder to process the cocaine from your system it can increase the concentration of the drug in your body, which can increase your risk of overdose.

It isn't recommended to take stimulants and SSRIs together, so make sure you speak with your GP about your options to see if a SSRI is the right drug for you.

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In the case of an emergency, dial Triple Zero (000) and ask for 'ambulance'.

Published June 2024.

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Recreational drug categories

- Alcohol
- Nicotine
- Cannabis
- Hallucinogens
- Opioids
- Stimulants

Prescription drug categories

- ADHD medications
- Atypical antipsychotics
- Typical antipsychotics
- Benzodiazepines
- Lithium
- MAOIs (Monoamine oxidase inhibitor)
- NaSSAs (Noradrenergic and specific serotonergic antidepressant)
- SNRIs (Serotonin–norepinephrine reuptake inhibitor)
- SSRIs (Selective serotonin reuptake inhibitor)
- TCAs (Tricyclic antidepressants)
- Mood stabilisers

2024 update

- We learnt that simpler language and less medical jargon was more effective
- We condensed two sets of resources into one suitable for both health practitioners and their clients
- We altered the most common prescriptions

Nicotine interactions

- Low risk of adverse interaction
- Cigarettes often contain chemicals which can make some medication less effective. Such as:
  - SNRIs
  - Benzos
  - SSRIs
  - TCAs
  - Typical and Atypical antipsychotics

Cannabis interactions

- Low risk of adverse interaction
- Cannabis is a central nervous system (CNS) depressant – combining with other CNS depressants has an additive effect

Hallucinogen interactions

- LSD can decrease the effectiveness of antipsychotics
- Antipsychotics can dampen effects of LSD
- ADHD medication can increase the duration and intensity of LSD
- MAOIs may increase the effects of psilocybin while also decreasing the effects of LSD
- LSD combined with other serotonergic compounds carries an increased risk of serotonin syndrome (serotonin toxicity)

Alcohol interactions

- Alcohol is a CNS depressant – combining with other CNS depressants has an additive effect
- High dose Alcohol + Benzos risks slowing breathing and heart rate
- Heavy drinking on SNRIs risks more severe liver damage
- Drinking certain types of alcohol while taking MAOIs can lead to increases in blood pressure

Stimulant interactions

- Combining stimulants with ADHD medication has an additive effect - amplifying side effects
- Stimulants may prevent antipsychotics from working effectively
- Antipsychotic may reduce the effect of the stimulant
- High doses of cocaine with benzodiazepines can cause over sedating and create breathing issues

Stimulant interactions

- Dehydration from the environmental factors associated with MDMA use can be dangerous when combined with lithium due to risk of lithium toxicity
- Stimulants + MAOIs, NaSSAs, SNRIs, SSRIsm and TCAs heightens risk of serotonin toxicity
- MAOIs, NaSSAs, SNRIs, SSRIsm and TCAs can increase blood pressure (hypertensive crisis)
- SSRIs decrease the effectiveness of MDMA which can lead to riskier behaviour / dosing

Opioid interactions

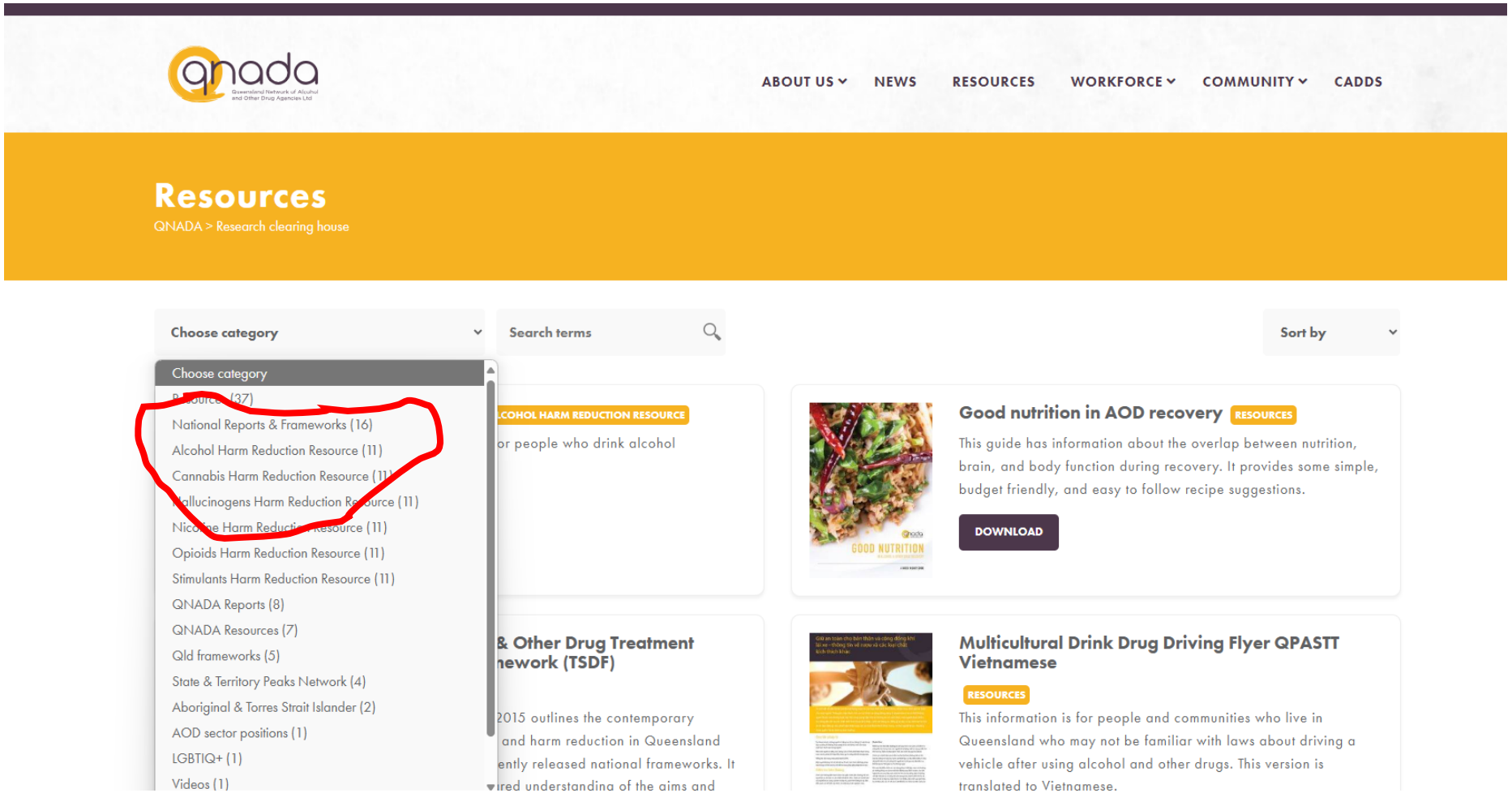
- Only Lithium is classified as ‘low risk’ – all other medication categories are considered ‘high risk’
- Opioids and antipsychotics are ‘high risk’ due to increased risk of CNS depression
- ADHD medication and opioids are ‘high risk’ due to increased overdose risk
- Benzos and Opioids are ‘high risk’ due to increased overdoes risk

Opioid interactions

- MAOIs and opioids can lead to serious drops in blood pressure, heart rate, body temperature and breathing
- Simultaneous opioid and MAOI, NaSSA, SNRI, SSRI, and TCA use increases the risk of serotonin toxicity
- These medications can also slow the breakdown of opioids in your blood – increasing risk of overdose
- Mood stabilisers and opioids reduce desired effects of opioids leading to riskier patterns of behaviour

Thank you

- Available on the QNADA website
- QNADA – Resources – Search: Harm Reduction
- http://qnada.org.au/research-clearing-house/ing house Archive - QNADA



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