Coding alcohol and drug related deaths

Advice to coders

The NCIS codeset applicable to coding alcohol and/or drugs is *Pharmaceutical substance for human use* (PSHU). In terms of NCIS coding, alcohol and/or drugs may be involved in a death in the following ways:

- primary cause of a death, such as 'drug overdose'
  OR
- contributing factor— this may occur in a number of ways. For example, alcohol impairing the ability to drive, drugs impairing ability to make a rational judgment about consequences or alcohol and/or drugs contributing to a natural disease (alcoholic cirrhosis)

When should alcohol and/or drugs be coded?

Alcohol and/or drugs are identified through toxicology testing for a large number of cases.

For NCIS purposes, alcohol and/or drugs should be coded if the substances contribution to the death is recognised through at least one of the following:

1. referenced in *Cause of death* 1a, 1b, 1c, 1d or 2
2. determined by the coroner or pathologist to have contributed to the death
3. alcohol and/or drug status of a person other than the deceased was noted as a factor in the death within coroners finding (for example, detected in driver of another vehicle involved in incident, or the perpetrator of an assault)

> ***Flowchart 1* provides guidance on determining when you need to code alcohol and/or drugs for death**

TIPS

Which drugs should be coded?

If the case meets at least one of the three listed criteria, then:

- Code **ALL** alcohol and/or drugs detected in toxicology tests and listed in toxicology reports for case.

Note: Coders do not need to determine the extent by which drugs contributed to the death, just need to show that they were **PRESENT.**

For easier data entry and reference, where appropriate, list the drugs as they appear on the toxicology reports — this is usually in alphabetical order.

Which fields should be used to code alcohol and/or drug contribution?

There are two data fields involved in the coding of alcohol and/or drug contribution:

1. Mechanism of injury - describes way or means by which substance contributed
2. Object or substance producing injury - describes the substance which contributed

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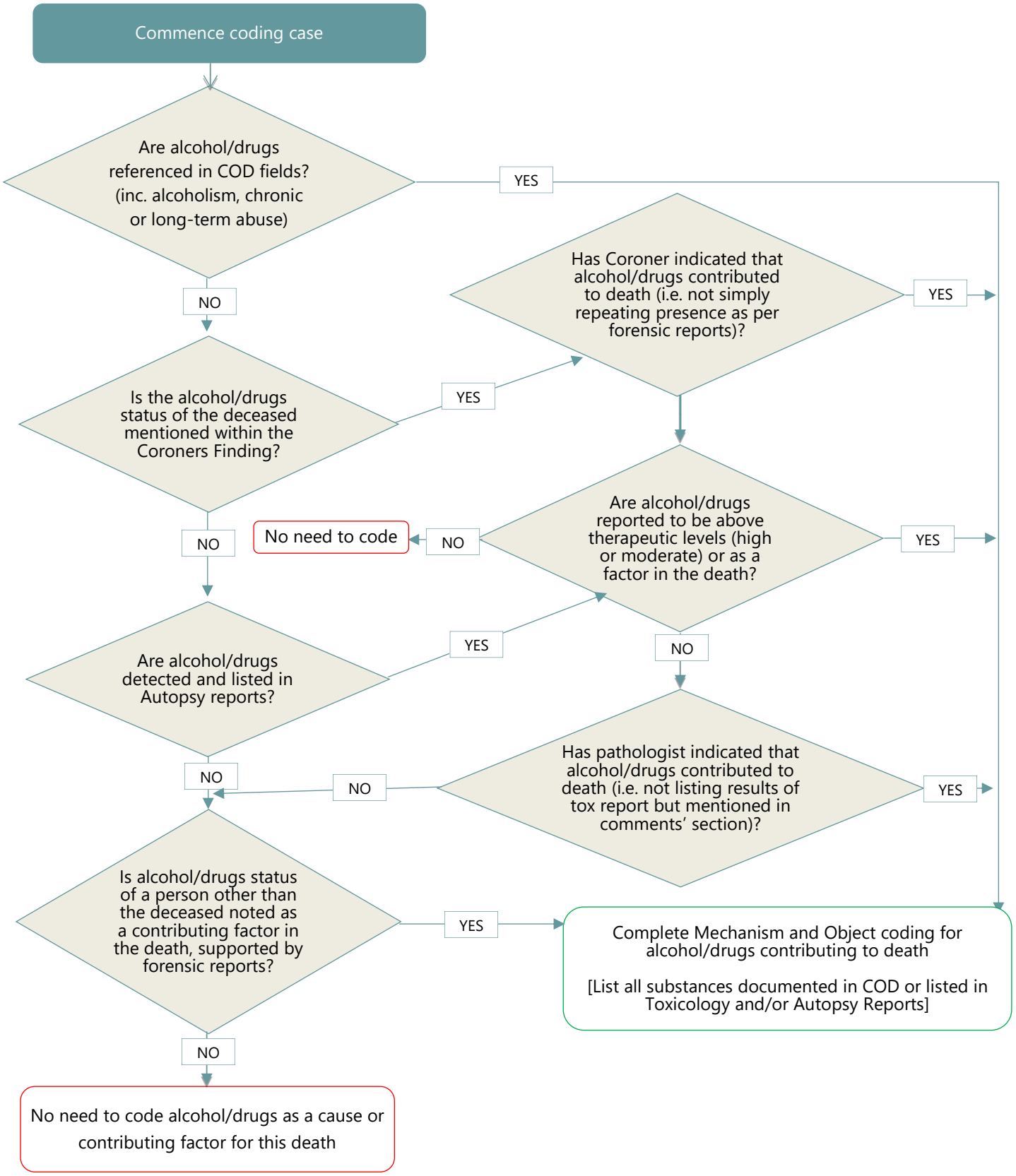
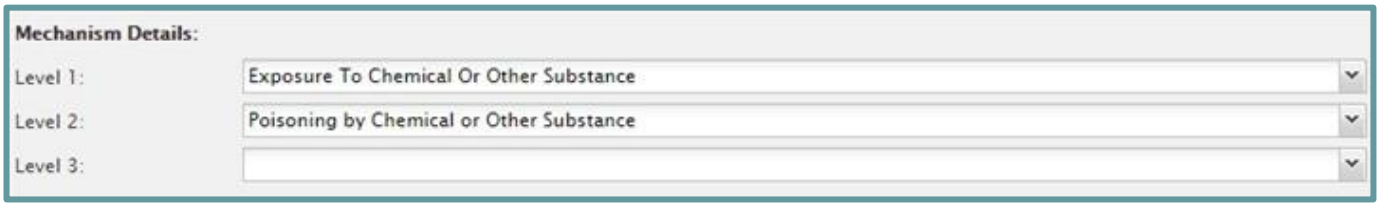
Flowchart 1: Should alcohol and/or drugs be coded?



Which mechanism code should be used?

The relevant Mechanism code for alcohol and/or drug contribution is:



In most cases, the third level Mechanism code selected under this heading will clarify the type of poisoning. Examples of when they are applied are provided in Table 1

Table 1: Third level *Mechanism of injury* codes

Mechanism code	Scenario
Poisoning by pharmaceutical substance	Poisoning or toxicity by a substance listed in the pharmaceutical substance codes in Object data field. These are the substances which are intended for human use, either prescribed or illicit
Poisoning by other substance (not pharmaceutical)	Poisoning or toxicity by a substance which is **not listed** within the pharmaceutical substance codeset in Object data field. Includes poisoning by motor vehicle exhaust or ingestion of toxic substance (for example, petrol, weed killer, cyanide, strychnine, toluene). This code should not be used for poisoning by alcohol and/or drugs
Intoxication causing driving impairment	Where a transport vehicle is in use and alcohol/drug considered to be a factor in the driving ability of the deceased or others involved although not considered to be at poisoning or toxicity levels for example, recreational drugs detected or alcohol under the legal limit*
Intoxication causing impaired judgment	Where a transport vehicle is not in use (for example, drowning, fall from height, assault) and alcohol/drug considered to have impacted on deceased's ability to make a rational decision at time of the incident although not considered to be at poisoning or toxicity levels for example, recreational drugs detected or alcohol under legal limit*
*Alcoholic disease^*	Prolonged and/or excessive use of alcohol contributed to disease/condition which caused death. This code is commonly associated with natural cause deaths (for example, alcoholic cirrhosis)
Food poisoning	Illness caused by eating contaminated food or drink

* The legal limit will be influenced by type of licence held (full or probationary), context of the injury event for example, driving for work purposes) and National/State/Territory laws. A broad indication for most circumstances is under 0.05, over the limit is Poisoning

^ Must meet the criteria for contribution by alcohol and/or drugs

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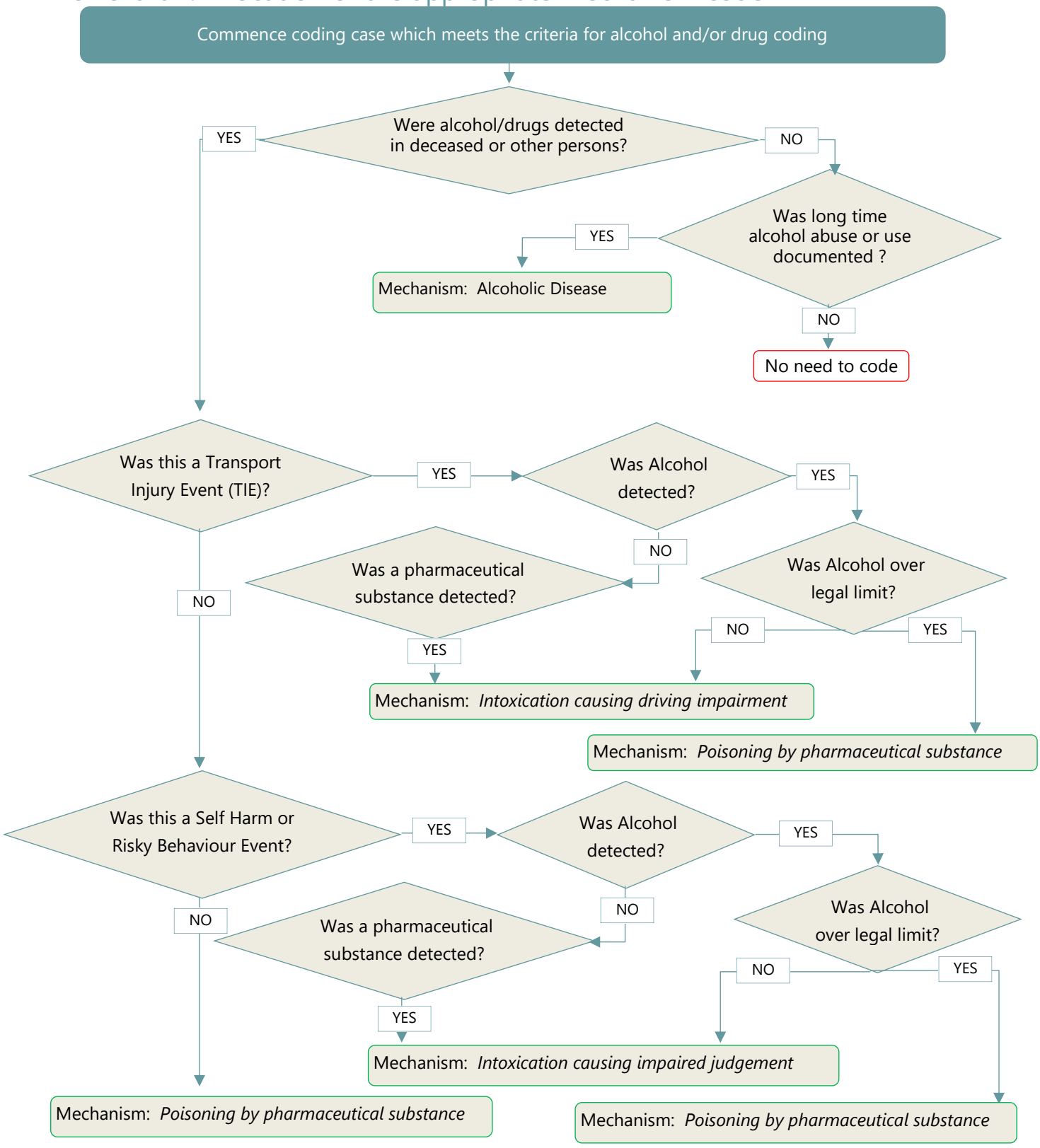
Flowchart 2: Allocation of the appropriate mechanism code



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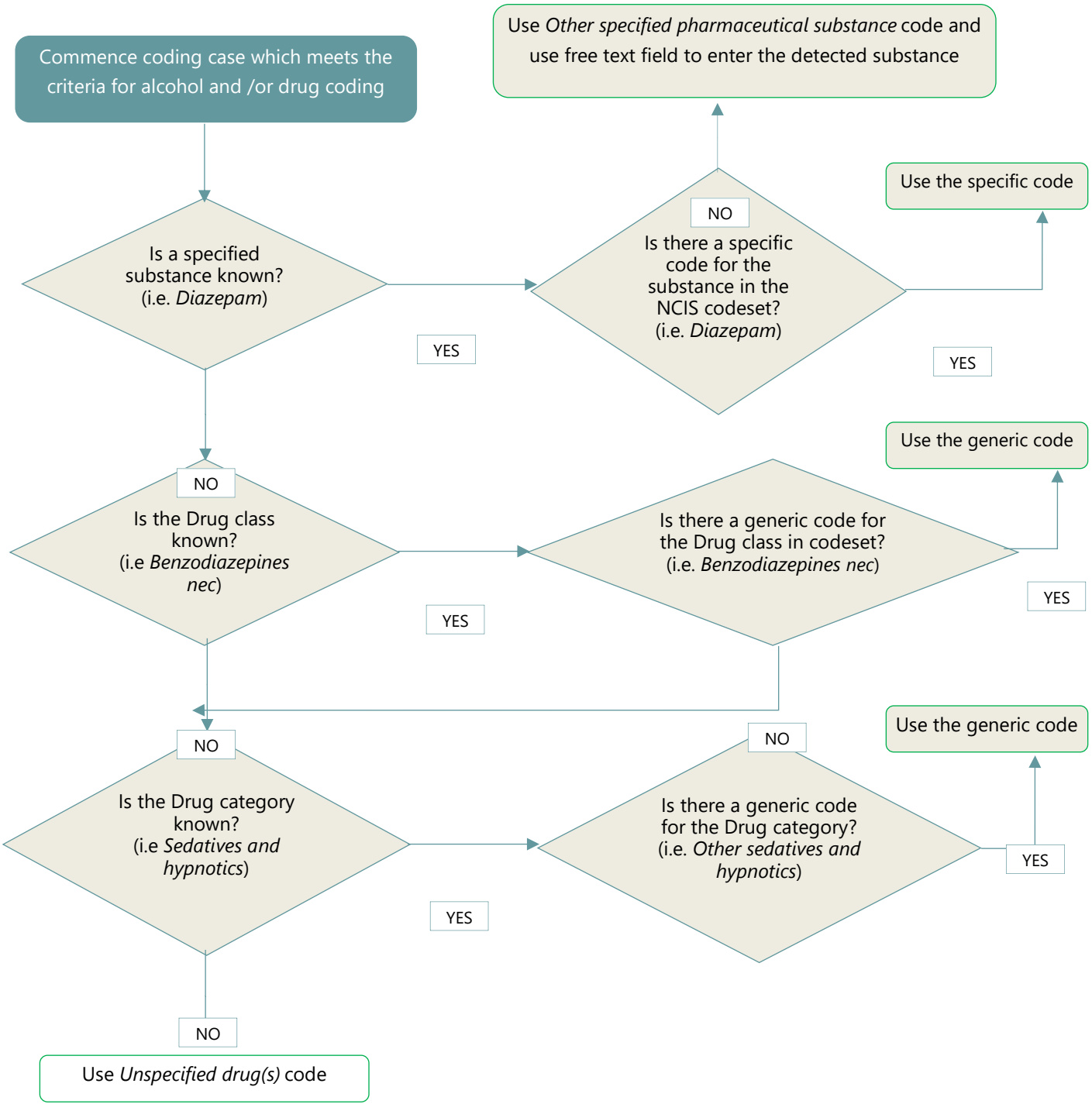
How to code the Object or substance producing injury

The relevant NCIS *Object or Substance Producing Injury* (Object) code for alcohol and/or drug contribution is *Pharmaceutical substance for human use*.

Flowchart 3 outlines what secondary and tertiary object codes should be used

Flowchart 3: Allocation of the appropriate Object/substance code



In what sequence should alcohol and/or drugs be assigned in the mechanism and object fields?

The NCIS provides for three levels of Mechanism/Object coding:

1. Primary (Rank 1)
2. Secondary 1 (Rank 2)
3. Secondary 2 (Rank 3)

Determining which *Rank* to use when coding alcohol and/or drugs is dependent on two factors:

1. If alcohol and/or drugs is listed as main cause of death (*COD 1a*)
2. If any other Mechanism/Object coding takes priority over alcohol and/or drug coding

Alcohol and/or drugs as Rank 1 (Primary)

Alcohol and/or drugs are coded as *Rank 1* when:

- they are considered to be a primary contributor to death (Listed in *COD1a*) OR
- there are **no other** external factors contributing to the death to code (this is most common when coding the contribution of alcohol and/or drugs in natural cause deaths)

Alcohol and/or Drugs as Rank 2 or 3 (Secondary 1 or Secondary 2)

Alcohol and/or drugs are coded as the *Rank 2* or *Rank 3* when:

- they are **not** considered to be a primary contributor to death (Listed in COD in any position except 1a) or
- there are other external factors that made a greater contribution to death (for example, drowning, transport injury)

See examples of these scenarios

Tips

Use of *Other specified* free text field to code drug involvement:

- Verify the spelling of the drug name — enter it as detailed on the toxicology report
- If the appropriate class or category for a drug is unknown or cannot be found in the codeset, use *Other specified pharmaceutical substance for human use* and type substance name in text field
- **Do not use** the generic terms, such as 'multiple drugs' in the text field – list all drugs detected. It is important that all substances be identified in coding (not all users have access to attached reports) to view the specific drugs listed

FREQUENTLY ASKED QUESTIONS

Do I need to code the drug paraphernalia (such as the syringe, bong)?

No, only code substances involved in death. Do not code any objects involved in administration of substance.

What if no substances were reported in the finding, autopsy or toxicology but it was noted in police report that deceased was consuming alcohol and/or drugs in the hours before death?

If the contribution of the alcohol and/or drugs is not documented in any of the forensic (for example, autopsy or toxicology) or coroners reports then it **should not** be coded.

Do I need to code alcohol and/or drugs if the deceased had no substances detected but another person(s) involved in the death (for example, driver of vehicle, perpetrator of assault) did?

Yes, as long as the other person had some contributory involvement in the fatal incident and evidence of this contribution is included in the coroners file and investigation reports. For example, the alcohol and/or drug status of passenger killed in accident (where the driver(s) were not alcohol and/or drug affected) should not be coded as it had no influence on the event. However, the alcohol and/or drug status of a driver(s) should be coded if it did have an influence on the event.

Do I need to code alcohol and/or drugs contribution for natural deaths?

Yes, if alcohol and/or drug is a contributing factor, then code it. The involvement of alcohol and/or drug in a natural death is just as relevant as involvement in an external death.

Do I need to code the substance if prolonged or chronic use of alcohol and/or drugs is documented but no substances were detected in toxicology at time of death?

If prolonged and/or excessive use of alcohol is understood to have contributed to disease/condition which caused death, then it should be coded as a contributing factor. Commonly seen in cases of alcoholic diseases, which result from chronic consumption of alcohol over time.

Should alcohol and/or drugs be coded as the first, second or third rank mechanism/object?

For information refer to sequence guidance and coding examples.

What if there are more than three contributing factors to the death?

Code the three most important factors which caused the fatal injuries, ensuring that the coding provides an accurate representation of the circumstances surrounding death. Any alcohol and/or drug should always be coded, so this may mean that other factors have to be omitted. See example.

What do I code if cause of death is stated as 'Ecstasy and alcohol intoxication' and five additional substances are detailed in the toxicology report?

Code **ALL** alcohol and/or drugs listed in toxicology reports when **ANY** alcohol and/or drugs is noted to have contributed to the death. Refer Which drugs should be coded?

If a substance is known by multiple names (street, brand, class, group), what name do I use?

Code as per the name/description listed in the toxicology or autopsy report. If the substance is only mentioned in the COD (for example, not included in toxicology report or there is no toxicology performed), use the available description to code the substance.

For example, toxicology lists *Tetrahydrocannabinol* (or similar) - use this code; if no toxicology but COD or Coroner details *Cannabis*—use this code. Flowchart 3 provides more information.

Is there a defined order for listing the drugs in the *Other specified* free text field (where there are multiple drugs to be coded)?

List the substances as they are listed in the reference reports (such as toxicology). This is usually in alphabetical order. Individual substances should be separated by a semi colon (;)

Only include substances in the free text coding where the specific substance is known but a code does not exist within the NCIS codeset. If the specific substance is not known, use the generic class or category code or Unspecified drugs

What if drugs are present in the toxicology report but there is no mention of any contribution by the alcohol and/or drugs in the cause of death, autopsy reports or coroners finding?

A large proportion of coronial investigations will include toxicological testing, however, the presence of alcohol and/or drugs in the system of the deceased person is only relevant if it is documented as having contributed to the death or injury resulting in death.

Example: Deceased is driver of vehicle involved in single vehicle accident:

- Toxicology details alcohol at 0.01 and diazepam present
- Cause of death given as multiple injuries
- Neither finding nor autopsy report makes any reference to alcohol and/or drugs contributing to the event and death

Do not code any contribution by alcohol and/or drugs

Example: Deceased is driver of vehicle involved in single vehicle accident:

- Toxicology details alcohol at 0.01 and diazepam present
- Cause of death given as multiple injuries
- Coroner mentions that the deceased capability to drive was compromised by alcohol and diazepam

Code the contribution of the alcohol and diazepam [Mechanism = *Intoxication causing driving impairment* and Object = *Alcohol*, *Diazepam*]

If the contribution of the alcohol/drugs is not documented in any of the forensic (autopsy or toxicology) or the coroners reports then it should not be coded

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Table key: L1 = Object coding level (Level 1) and PS = Pharmaceutical substance (Description, Parent drug, Drug class)

Example type	Cause of death / Background	Rank	How to code Mechanism/Object
Alcohol abuse Natural cause death	COD 1a Chronic obstructive pulmonary disease COD 2 Alcohol abuse The cause of death and circumstances of the case note long term alcohol abuse although toxicology does not show any alcohol detected at time of death	Mechanism (Rank 1) Object (Rank 1)	(L1) Exposure to chemical or other substance (L2) Poisoning by chemical or other substance (L3) Alcoholic disease (L1) Pharmaceutical substance for human use (PS) Alcohol | Alcohol | Alcohols
Drug toxicity External cause death	COD 1a Heroin and oxycodone toxicity It is not common to see heroin listed on a toxicology report, usually metabolites (Monoacetylmorphine or 6-Monoacetyl Morphine (6-MAM)) are listed If the coroner or pathologist list heroin as the substance, then this can be coded. Otherwise code the metabolities as listed	Mechanism (Rank 1) Object (Rank 1)	(L1) Exposure to chemical or other substance (L2) Poisoning by chemical or other substance (L3) Poisoning by pharmaceutical substance (L1) Pharmaceutical substance for human use (PS) Heroin and metabolites | Heroin and metabolites | Semisynthetic opioid analgesics Oxycodone | Oxycodone | Semisynthetic opioid analgesics
Medication in natural death Natural cause death	COD 1a Spontaneous intracerebral haemorrhage COD 2 Warfarin therapy The evolution of the natural disease (intracerebral haemorrhage) was intensified by the prescribed use of warfarin exacerbating the bleeding, from the haemorrhage	Mechanism (Rank 1) Object (Rank 1)	(L1) Complications of Health Care (L2) Adverse Effects Related to Drugs, Medicaments…. (L3) Adverse Effect in the Therapeutic Use of Drugs, medicaments or Biological Substances during Surgical/Medical Care (L1) Pharmaceutical Substance for Human Use (PS) Warfarin | Warfarin | Anticoagulants

<table>
<tr><th>Example type</th><th>Cause of death / Background</th><th>Rank</th><th>How to code Mechanism/Object</th></tr>
<tr><td>Drugs in non-deceased

External cause death</td><td>COD 1a Multiple injuries

Deceased was a passenger in a single vehicle fatality and the toxicology report showed presence of substances at time of death

Toxicology for the driver of the vehicle (who survived) detected desmethyltramadol, clozapine, diazepam and nordiazepam

As the driver was the person in control of the vehicle at time of the incident, the substances detected for the driver are considered a contributing factor for the death and are therefore coded

Substances detected for the deceased are not coded as they did not contribute to the fatal incident

Substances for the driver (coded) include metabolites for both tramadol and diazepam</td><td>Mechanism (Rank 1)

Object (Rank 1)

Mechanism (Rank 2)

Object (Rank 2)</td><td>(L1) Blunt force
(L2) Transport injury event
(L3) Vehicle occupant

(L1) Land vehicle or means of land transport
(L2) Light transport vehicle with four or more wheels
(L3)Passenger car

(L1) Exposure to chemical or other substance
(L2) Poisoning by chemical or other substance
(L3) Poisoning by Multiple Substances

(L1) Pharmaceutical Substance for Human Use (PS)
<table>
<tr><td>Desmethyltramadol</td><td>Tramadol</td><td>Synthetic Opioid Analgesics</td></tr>
<tr><td>Clozapine</td><td>Clozapine</td><td>Atypical Antipsychotics</td></tr>
<tr><td>Diazepam</td><td>Diazepam</td><td>Benzodiazepines</td></tr>
<tr><td>Nordiazepam</td><td>Diazepam</td><td>Benzodiazepines</td></tr>
</table></td></tr>
<tr><td>Drugs in non-deceased

External cause death</td><td>COD 1a Multiple injuries

Deceased was a passenger in a single vehicle fatality and the toxicology report showed presence of substances at time of death

Toxicology for the driver of vehicle showed no substances. Substances detected for deceased are not coded as they did not contribute to fatal incident</td><td>Mechanism (Rank 1)

Object (Rank 1)</td><td>(L1) Blunt force
(L2) Transport injury event
(L3) Vehicle occupant

(L1) Land vehicle or means of land transport
(L2) Light transport vehicle with four or more wheels
(L3)Passenger car</td></tr>
</table>

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Example type	Cause of death / Background	Rank	How to code Mechanism/Object
Aspiration and alcohol External cause death	COD 1a Aspiration of gastric content COD 1b Alcohol toxicity COD 2 Ischaemic heart disease From the COD, it is clear that alcohol contributed to death, however the primary cause of death (1a) was aspiration of gastric content so this is coded first (Rank 1), with the contribution of the alcohol coded as Rank 2	Mechanism (Rank 1) Object (Rank 1) Mechanism (Rank 2) Object (Rank 2)	(L1) Threat to breathing (L2) Mechanical threat to breathing (L3) Obstruction of airway by inhaled object/substance (L1) Other object/substance (L2) Other object/substance (L3) Gastric content (L1) Exposure to chemical or other substance (L2) Poisoning by chemical or other substance (L3) Poisoning by pharmaceutical substance (L1) Pharmaceutical substance for human use (PS) Alcohol | Alcohol | Alcohols
Non pharmaceutical toxicity External cause death Glyphosate poisoning	COD 1a Glyphosate toxicity Death was the result of the ingestion of the weed killer Round-up The toxicology report listed glyphosate and alcohol as detected	Mechanism (Rank 1) Object (Rank 1) Mechanism (Rank 2) Object (Rank 2)	(L1) Exposure to chemical or other substance (L2) Poisoning by chemical or other substance (L3) Poisoning by other substance (not pharmaceutical) (L1) Other non-pharmaceutical chemical substance (L2) Pet (veterinary) product, pesticide, herbicide (L3) Weed killer, herbicide (L1) Exposure to chemical or other substance (L2) Poisoning by chemical or other substance (L3) Poisoning by pharmaceutical substance (L1) Pharmaceutical substance for human use (PS) Alcohol | Alcohol | Alcohols

<table>
<tr><th>Example type</th><th>Cause of death / Background</th><th>Rank</th><th>How to code Mechanism/Object</th></tr>
<tr><td>Hanging with alcohol and drugs

External cause death</td><td>COD 1a Hanging

Death was the result of hanging using a rope and a roof beam

The toxicology report listed amphetamine, cannabis and alcohol as detected

Within the finding, the coroner states that deceased ability for rational thinking was affected by ingestion of amphetamine, alcohol and cannabis</td><td>Mechanism (Rank 1)

Object (Rank 1)

Mechanism (Rank 2)

Object (Rank 2)

Mechanism (Rank 3)

Object (Rank 3)</td><td>(L1) Threat to breathing
(L2) Mechanical threat to breathing
(L3) Hanging

(L1) Other object/substance
(L2) Fastening, binding, or securing item nec
(L3) Rope, string, or twine

(L1) Threat to breathing
(L2) Mechanical threat to breathing
(L3) Hanging

(L1) Building, building component, or related fitting
(L2) Other building, building component or fitting
(L3) Rafter, beam

(L1) Exposure to chemical or other substance
(L2) Poisoning by chemical or other substance
(L3) Intoxication causing impaired judgement

(L1) Pharmaceutical substance for human use
(PS)
<table>
<tr><td>Delta-9-THC acid</td><td>Cannabinoids</td><td>Cannabinoids and related drugs</td></tr>
<tr><td>Alcohol</td><td>Alcohol</td><td>Alcohols</td></tr>
<tr><td>Amphetamine</td><td>Amphetamine</td><td>Phenethylamines</td></tr>
</table>
</td></tr>
</table>

<table>
<tr><th>Example type</th><th>Cause of death / Background</th><th>Rank</th><th>How to code Mechanism/Object</th></tr>
<tr><td>Helium with contributing drugs

External cause death</td><td>COD 1a Plastic bag and helium asphyxiation

Deceased located on bed with a plastic bag secured over the head with tubing was inserted into the bag. A depleted helium bottle was located

Toxicology did not identify helium however nortriptyline, oxycodone and venlafaxine were detected and indicated as a contributing factor in the Finding

Note 1: As helium is a non-pharmaceutical chemical it must be coded separately to the identified pharmaceutical substances

Note 2: If the pathologist or coroner had stated that the substances (nortriptyline, oxycodone and venlafaxine) did not contribute to the death – do not code the substances</td><td>Mechanism (Rank 1)

Object (Rank 1)

Mechanism (Rank 2)

Object (Rank 2)

Mechanism (Rank 3)

Object (Rank 3)</td><td>(L1) Threat to breathing
(L2) Mechanical threat to breathing
(L3) Suffocation from object covering mouth and nose

(L1) Other object/substance
(L2) Other object/substance
(L3) Plastic bag

(L1) Threat to breathing
(L2) Threat to breathing from low oxygen environment

(L1) Other non-pharmaceutical chemical substance
(L2) Other non-pharmaceutical chemical substance
(L3) Helium gas

(L1) Exposure to chemical or other substance
(L2) Poisoning by chemical or other substance
(L3) Poisoning by pharmaceutical substance

(L1) Pharmaceutical substance for human use
(PS)
<table>
<tr><td>Nortriptyline</td><td>Amitriptyline</td><td>Tricyclic antidepressants</td></tr>
<tr><td>Oxycodone</td><td>Oxycodone</td><td>Semisynthetic opioid analgesics</td></tr>
<tr><td>Venlafaxine</td><td>Venlafaxine</td><td>Selective noradrenaline reuptake inhibitors (SNRI)</td></tr>
</table>
</td></tr>
</table>

Example type	Cause of death / Background	Rank	How to code Mechanism/Object
More than 3 contributing factors External cause death Transport, drowning and alcohol	COD 1a Drowning COD 2 Alcohol intoxication The deceased was the driver of a sedan which was located submerged in a lake Evidence shows that the vehicle veered out of control before it collided with a tree and rolled into the lake The toxicology testing for the deceased detected alcohol and pathologist has included as a factor For this case we have four factors to be considered for coding—as we need coding to reflect the most important factors the coding advice is to exclude the • Contact with Static Object & Tree This allows the main components of injury and death event to be represented in the coding • Drowning in the Lake • Transport Incident involving passenger car • Alcohol	Mechanism (Rank 1) Object (Rank 1) Mechanism (Rank 2) Object (Rank 2) Mechanism (Rank 3) Object (Rank 3)	(L1) Threat to breathing (L2) Drowning/near drowning (L3) Drowning/near drowning following a vehicle accident (L1) Ground surface or surface conformation (L2) Body of water (L3) Dam, lake, waterhole (L1) Blunt force (L2) Transport injury event (L3) Vehicle occupant (L1) Land vehicle or means of land transport (L2) Light transport vehicle with four or more wheels (L3) Passenger car (L1) Exposure to chemical or other substance (L2) Poisoning by chemical or other substance (L3) Poisoning by pharmaceutical substance (L1) Pharmaceutical substance for human use (PS) Alcohol | Alcohol | Alcohols

When you have more than three factors contributing to the death code the three most important factors which caused the fatal injuries, ensuring that the coding provides an accurate representation of the circumstances surrounding death. Any drugs/alcohol should always be coded, so this may mean that other factors have to be omitted