



**Coroners Court
of Victoria**

Coronial insights into understanding and preventing drug-related harms

Pharmaceutical Society of Australia
Harm Minimisation Forum
Wednesday 12 September 2012

Presentation

Background	Jeremy Dwyer Case Investigator Coroners Prevention Unit Coroners Court of Victoria
Insight	Audrey Jamieson Coroner Coroners Court of Victoria
Acknowledgements	Sam Pegler Lyndal Bugeja

Note

The material presented here was generated to inform Victorian coroners' investigations. Much of the material is derived from research that has not been scrutinised through a peer review process. Some data is preliminary in nature, as it is derived from deaths that have not yet been subject to coronial findings.

Any information presented here should be used with caution and an understanding of these limitations.

Coroners Prevention Unit

Register of acute drug deaths:

- Deaths for which acute drug toxicity played a causal or contributory role ('overdose' deaths reported to Court).
- No chronic or behavioural contribution.
- Deaths coded on all contributing drugs, according to expert death investigator advice.
- Register is partially populated.
- Generates empirical evidence to underpin coroners' investigations and recommendations.

Acute drug deaths register

Edit death

LID: 2000999
 Year: 2003
 Sex: ☐ Male ☐ Female
 Age: 52

Cause of death: (G) Combined drug toxicity (heroin, diazepam, alprazolam)
 Notes: 8-monocyclic morphine detected in postmortem sample, confirming heroin.

Drug contribution: Individual ☐ G: 94 ☐ Concomitant ☐ Unintentional ☐
 Drug attribution: Multiple ☐ G: 994 ☐ Concomitant ☐ Unintentional ☐
 Cause status: Closed ☐

Subtype of incident: Poisoning ☐
 Potentials of incident: 3073 ☐ Get LSA ☐ Make death ☐
 LSA of incident: Divergent ☐
 Region of incident: [Lancashire, Merseyside](#)

Drugs are incidental ☐
 Cause of death is unascertained ☐

Contributing drugs: (Check all) (Copy all)

Alprazolam, Diazepam, Heroin,

<input type="checkbox"/> Amlodipine	<input type="checkbox"/> Bupropion	<input type="checkbox"/> Digoxin	<input type="checkbox"/> Gabapentin	<input type="checkbox"/> HCTZ	<input type="checkbox"/> Nifedipine	<input type="checkbox"/> Propafenone	<input type="checkbox"/> Tramadol
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Background

Structure:

- Introduction to Victorian acute drug deaths 2010-2011
- Oxycodone contribution in focus
- Methadone contribution in focus
- Diazepam as ubiquitous co-contributor

Themes:

- Prevalence of medication contribution in deaths.
- Importance of drug combinations.

Structure:

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- Importance of drug combinations.

Annual acute drug deaths, 2010-2011

Drug involvement	2010	2011
Single drug toxicity	123 (36.4%)	129 (36.2%)
Multiple drug toxicity	215 (63.6%)	227 (63.8%)
All acute drug deaths	338 (100.0%)	356 (100.0%)

Drug involvement	2010	2011
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Contributing drug types

Drug type	2010	2011
Medications	261 (77.2%)	270 (75.8%)
Illicit drugs	149 (44.1%)	153 (43%)
Alcohol	88 (24.3%)	85 (23.9%)
All acute drug deaths	338 (100.0%)	356 (100.0%)

Drug type	2010	2011
Medications	261 (77.2%)	270 (75.8%)
Illicit drugs	149 (44.1%)	153 (43%)
Alcohol	88 (24.3%)	85 (23.9%)
All acute drug deaths	338 (100.0%)	356 (100.0%)

Drug type combinations

Combination	2010	2011
Medications alone	139 (41.1%)	143 (40.2%)
Medications with illicit drugs	67 (19.8%)	68 (19.1%)
Illicit drugs alone	50 (14.8%)	60 (16.9%)
Medications with alcohol	29 (8.6%)	41 (11.5%)
Medications with illicit drugs and alcohol	26 (7.7%)	18 (5.1%)
Alcohol alone	21 (6.2%)	19 (5.3%)
Illicit drugs with alcohol	6 (1.8%)	7 (2.0%)
All deaths	338 (100.0%)	356 (100.0%)

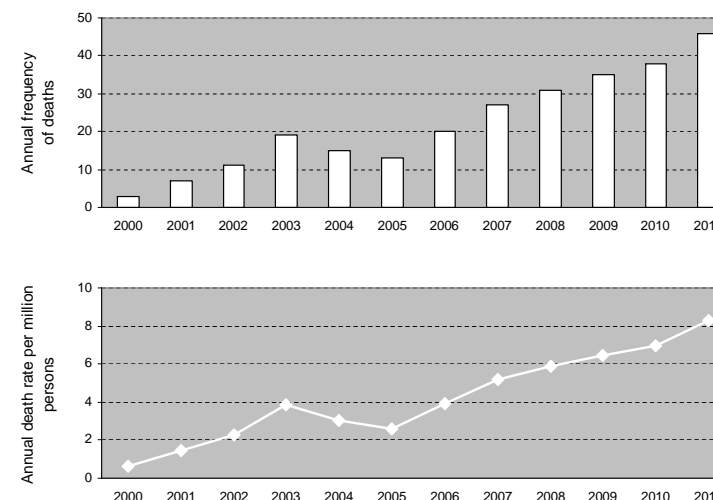
Most frequent contributing drug groups

Drug group	2010	2011
Benzodiazepines	165 (48.8%)	179 (50.3%)
Illicit drugs	149 (44.1%)	153 (43.0%)
Opioid analgesics	140 (41.4%)	183 (51.4%)
Antidepressants	102 (30.2%)	99 (27.8%)
Alcohol	82 (24.3%)	85 (23.9%)
Antipsychotics	64 (18.9%)	64 (18.0%)

Most frequent contributing drugs

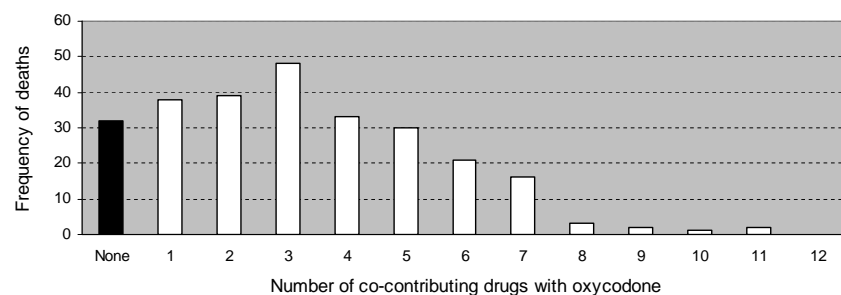
Drug	2010	2011
Heroin	139 (41.1%)	129 (36.2%)
Diazepam	108 (32.0%)	123 (34.6%)
Alcohol	82 (24.3%)	85 (23.9%)
Alprazolam	56 (16.6%)	43 (12.1%)
Codeine	55 (16.3%)	66 (18.5%)
Methadone	53 (15.7%)	72 (20.2%)
Oxycodone	38 (11.2%)	46 (12.9%)
Quetiapine	37 (10.9%)	33 (9.3%)
Amitriptyline	25 (7.4%)	21 (5.9%)
Citalopram	21 (6.2%)	21 (5.9%)
Temazepam	21 (6.2%)	48 (13.5%)
Mirtazapine	20 (5.9%)	23 (6.5%)
Paracetamol	20 (5.9%)	24 (6.7%)
Oxazepam	19 (5.6%)	44 (12.4%)
Methamphetamine	14 (4.1%)	29 (8.1%)

Victorian deaths involving acute oxycodone toxicity, 2000-2011



Drug involvement in oxycodone deaths

Drug involvement	n	%
Multiple drugs including oxycodone	233	87.9%
Oxycodone alone	32	12.1%



Contributing drug groups with oxycodone

Drug group	n	%
Benzodiazepines	175	66.0%
Antidepressants	118	44.5%
Opioid analgesics	114	43.0%
Alcohol	68	25.7%
Illicit drugs	43	16.2%
Non-opioid analgesics	40	15.1%
Antipsychotics	39	14.7%
Non-benzodiazepine anxyolitics, sedatives, hypnotics	28	10.6%

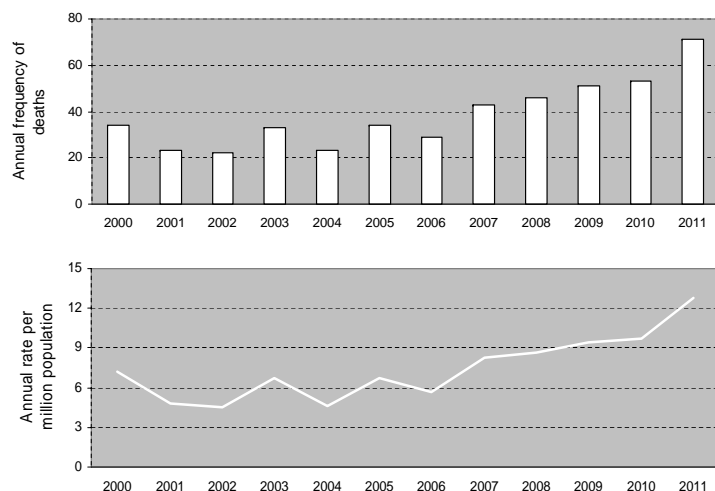
Individual co-contributing drugs with oxycodone

Drug	n	%
Diazepam	128	48.3%
Alcohol	68	25.7%
Codeine	64	24.2%
Alprazolam	41	15.5%
Paracetamol	36	13.6%
Citalopram	31	11.7%
Amitriptyline	30	11.3%
Oxazepam	30	11.3%
Heroin	28	10.6%
Temazepam	26	9.8%
Methadone	24	9.1%
Tramadol	24	9.1%
Quetiapine	21	7.9%

Themes in oxycodone deaths

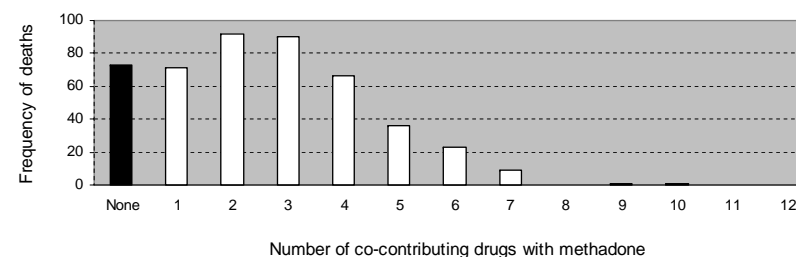
- Oxycodone was prescribed to the deceased.
- Chronic pain was overlaid with substance abuse.
- Chronic pain, opioid dependence, depression and suicide commonly co-occurred.
- Prescription shopping for benzodiazepines was common.

Victorian deaths involving acute methadone toxicity, 2000-2011



Drug involvement in methadone deaths

Drug involvement	n	%
Multiple drugs including methadone	389	84.2%
Methadone alone	73	15.8%



Contributing drug groups with methadone

Drug group	n	%
Benzodiazepines	278	60.2%
Illicit drugs	157	34.0%
Antidepressants	148	32.0%
Opioid analgesics	125	27.1%
Antipsychotics	76	16.5%
Alcohol	68	14.7%

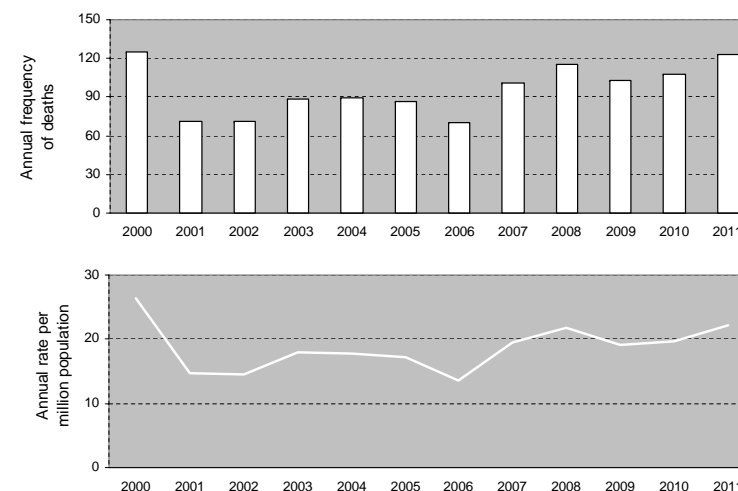
Individual co-contributing drugs with methadone

Drug	n	%
Diazepam	228	49.4%
Heroin	122	26.4%
Codeine	78	16.9%
Alcohol	68	14.7%
Alprazolam	57	12.3%
Oxazepam	48	10.4%
Methamphetamine	45	9.7%
Temazepam	39	8.4%
Olanzapine	32	6.9%
Amitriptyline	29	6.3%
Nitrazepam	29	6.3%
Mirtazapine	28	6.1%

Themes in methadone deaths

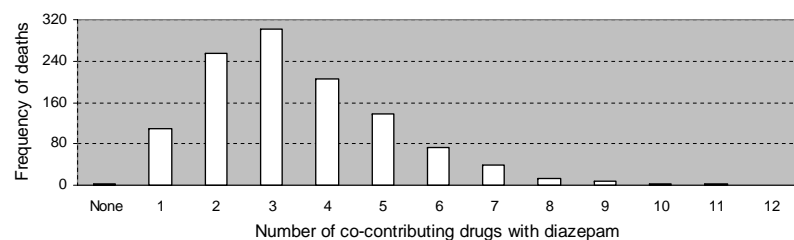
- Involvement of takeaway dosing for opioid pharmacotherapy.
- Probable diversion of methadone.
- Co-prescription of multiple benzodiazepines with methadone to the deceased.

Victorian deaths involving acute diazepam toxicity, 2000-2011



Drug involvement in diazepam deaths

Drug involvement	n	%
Multiple drugs including diazepam	1149	99.8%
Diazepam alone	2	0.2%



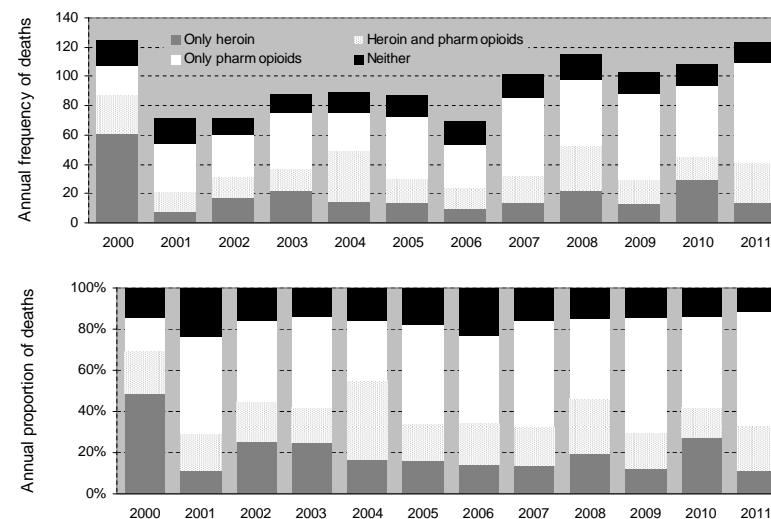
Contributing drug groups with diazepam

Drug group	n	%
Opioid analgesics	730	63.5%
Illicit drugs	533	46.4%
Antidepressants	529	46.0%
Benzodiazepines	417	36.3%
Alcohol	364	31.7%
Antipsychotics	244	21.2%
Non-opioid analgesics	153	13.3%

Individual co-contributing drugs with diazepam

Drug	n	%
Heroin	482	41.9%
Codeine	375	32.6%
Alcohol	364	31.7%
Methadone	228	19.8%
Temazepam	160	13.9%
Oxazepam	146	12.7%
Paracetamol	131	11.4%
Oxycodone	128	11.1%
Alprazolam	122	10.6%
Amitriptyline	113	9.8%
Methamphetamine	102	8.9%
Citalopram	87	7.6%
Quetiapine	85	7.4%
Olanzapine	84	7.3%

The diazepam-opioid nexus



Themes in diazepam deaths

- Diazepam is widely sought after by opioid abusers.
- Diazepam is widely prescribed to people suffering pain and/or opioid dependence.
- Diazepam is widely prescribed upon request and without scrutiny.

Concluding comments to background

- Prescription medications are frequently involved in acute drug deaths.
- Prescription medication involvement is often not straightforward.
- Interventions can be designed to target these deaths.

Purposes of the Coroners Act 2008 (Vic)

Section 1(c):

[...] to contribute to the reduction of the number of preventable deaths and fires through the findings of the investigation of deaths and fires, and the making of recommendations, by coroners.

Section 1(d):

[...] to establish the Coroners Court of Victoria as a specialist inquisitorial court .

The inquest

An inquest is “not a trial between opposing parties but an inquiry into the death. The focus is on discovering what happened, not on ascribing guilty, attributing blame or apportioning liability. The purpose is to inform the family and the public of how the death occurred with a view to reducing the likelihood of similar deaths.”

State Coroner of Queensland, in a finding regarding a suspected death delivered 6 June 2008.

Coronial recommendations

Section 72(2):

A coroner may make recommendations to any Minister, public statutory authority or entity on any matter connected with a death or fire which the coroner has investigated, including recommendations relating to public health and safety or the administration of justice.

Responses to recommendations

Under sections 72(3)-(5):

- Public statutory authorities and entities must provide written responses to recommendations within three months.
- Coroner must publish responses on the internet.
- All findings, comments and recommendations made following an inquest will be published on the internet, unless otherwise ordered by a coroner.

Coronial focus on harms associated with medications

“I merely add my voice to the chorus of coronial voices throughout Australia who, for years, have recommended the development and implementation of a computer aided system to endeavour to manage the problem of ‘doctor shopping’ and ‘pharmacy shopping’. [...] The system would need to be readily available to all prescribing medical practitioners and/or dispensing pharmacies. It would also need to operate in real time.”

Coroner Phillip Byrne, in a finding delivered 16 August 2002.

CPU support for coronial investigations

Considerations:

- Empirical evidence can identify systemic issues.
- The empirical evidence must illuminate the individual death.

Example: David Trengrove

- Male aged 38 years
- Death in 2008 from “toxic effects of morphine in a setting of benzodiazepine dependency”.
- Was prescribed morphine (MS Contin) over a 10-year period for chronic pain.
- Attended multiple doctors simultaneously to obtain multiple benzodiazepines including diazepam, clonazepam and alprazolam.

Clinical issues in David's death

- Individual clinicians prescribed multiple benzodiazepines.
- Long-term (10-year) prescribing of opioids for chronic non-malignant pain without review.
- Long-term benzodiazepine prescribing.
- Clinical care (including prescribing) was not coordinated.

Systemic issues in David's death

"There's no mechanism, if you like, to warn you that yes, this person is [prescription] shopping, and these multiple drugs actually can interact, and there is a danger from these drugs [...]."

"[...] if there was a mechanism in place that any GP could readily access to be informed that the patient was doctor shopping or was accessing opiates or benzodiazepines, I think that certainly would have rung alarm bells."

David's death in context

CPU data prepared for the investigation suggested David's death was part of a broader phenomenon:

- At least one benzodiazepine contributed in 165 Victorian drug deaths in 2010.
- Benzodiazepines co-contributed with opioid analgesics in 93 of the 165 deaths.
- There was positive evidence of substance abuse in 94 of the 165 deaths.

Preventing similar deaths

- Real-time prescription monitoring
- Revise benzodiazepine prescribing guidelines.
- Move benzodiazepines to Schedule 8 of the SUSMP.
- Advise the Court on guidelines for treating chronic non-malignant pain with opioids.
- Revise Department of Health process for approving Schedule 8 permits for opioids to treat chronic pain on a long-term basis.

Responses (1)

See <<http://www.coronerscourt.vic.gov.au/>>

"The [RACGP] agrees that the 2000 benzodiazepines guidelines do not reflect current advances in evidence and has therefore removed these from the website until they can be updated."

Royal Australian College of General Practitioners

"[...] it is envisaged the RACGP will produce template policies for general practices to suit their particular needs. Examples include policies relating to benzodiazepine reduction, opioid reduction, opioid dosing thresholds, continuation of opioid management plans for patients with chronic non-malignant pain, [and] alprazolam prescribing."

Royal Australian College of General Practitioners

Responses (2)

"My department continues to engage with the Commonwealth on its development of a national real-time prescription monitoring system through its Electronic Recording and reporting of Controlled Drugs (ERRCD_ initiative. While the Commonwealth intends to deliver the system which is already in operation in Tasmania, there is significant detail to be worked through to ensure that the Tasmanian system can be implemented nationally."

Victorian Department of Health

"In my view, the procedures that the department has in place as outlined in the [Policy for the Issue of Permits to Prescribe Schedule 8 Poisons] are consistent with the Coroner's recommendation while also taking into account current best practice advice from the National Prescribing Service."

Victorian Department of Health

Dispensers: the missing link

- Coroners overwhelmingly focus on prescribing side of issue.
- What opportunities are there for dispensers to play a prevention role?

Thank you



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