Coroners Court of Victoria

Coronial data on Victorian deaths involving acute drug toxicity

Yarra Drug & Health Forum
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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.

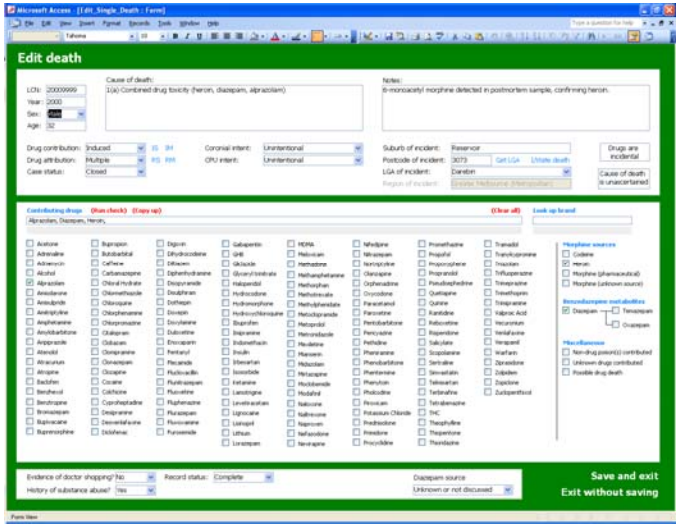
Any information presented here should be used with caution and an understanding of these limitations.

Coroners Prevention Unit

Drug deaths register:

- 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.

Register



The presentation

Structure:

- Introduction to Victorian deaths involving acute drug toxicity, 2010-2012
- Oxycodone in focus
- Fentanyl in focus
- Methadone in focus
- Diazepam as ubiquitous co-contributor
- Coroners' recommendations

Themes:

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

Annual deaths, 2010-2012

Drug involvement	2010	2011	2012
Single drug toxicity	123 (36.4%)	129 (36.2%)	116 (31.6%)
Multiple drug toxicity	215 (63.6%)	227 (63.8%)	251 (68.4%)
All deaths	338 (100.0%)	356 (100.0%)	367 (100.0%)

Contributing drug types

Drug type	2010 (n = 338)	2011 (n = 356)	2012 (n = 367)
Medications	261 (77.2%)	270 (75.8%)	304 (82.8%)
Illicit drugs	149 (44.1%)	153 (43%)	131 (35.7%)
Alcohol	88 (24.3%)	85 (23.9%)	80 (21.8%)

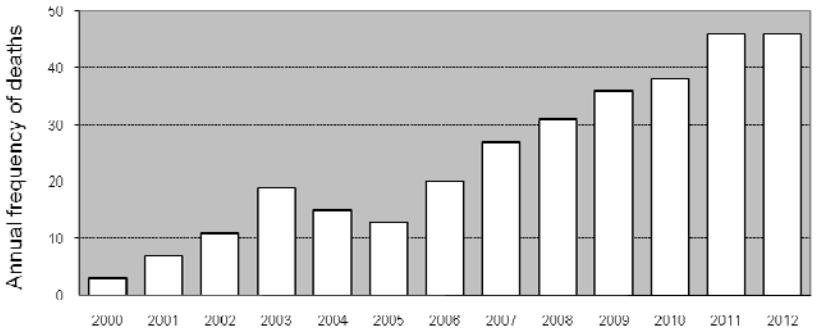
Top contributing medication groups	2010 (n = 338)	2011 (n = 356)	2012 (n = 367)
Opioid analgesics	140 (41.4%)	183 (51.4%)	209 (56.9%)
Benzodiazepines	165 (48.8%)	179 (50.3%)	196 (53.4%)
Antidepressants	102 (30.2%)	99 (27.8%)	141 (38.4%)
Antipsychotics	64 (18.9%)	64 (18.0%)	77 (21.0%)

Most frequent contributing drugs

Drug	2010	2011	2012
Diazepam	108 (32.0%)	124 (34.8%)	131 (35.7%)
Heroin	139 (41.1%)	129 (36.2%)	109 (29.7%)
Codeine	55 (16.3%)	66 (18.5%)	89 (24.3%)
Alcohol	82 (24.3%)	85 (23.9%)	80 (21.8%)
Methadone	53 (15.7%)	72 (20.2%)	74 (20.2%)
Alprazolam	56 (16.6%)	43 (12.1%)	55 (15.0%)
Paracetamol	20 (5.9%)	24 (6.7%)	48 (13.1%)
Oxycodone	38 (11.2%)	46 (12.9%)	46 (12.5%)
Oxazepam	19 (5.6%)	44 (12.4%)	41 (11.2%)
Quetiapine	37 (10.9%)	33 (9.3%)	40 (10.9%)
Temazepam	21 (6.2%)	48 (13.5%)	36 (9.8%)
Methamphetamine	14 (4.1%)	29 (8.1%)	34 (9.3%)
Amitriptyline	25 (7.4%)	21 (5.9%)	33 (9.0%)
Mirtazapine	20 (5.9%)	23 (6.5%)	26 (7.1%)
Citalopram	21 (6.2%)	21 (5.9%)	25 (6.8%)
Nitrazepam	16 (4.7%)	11 (3.1%)	24 (6.5%)
Olanzapine	18 (5.3%)	17 (4.8%)	22 (6.0%)

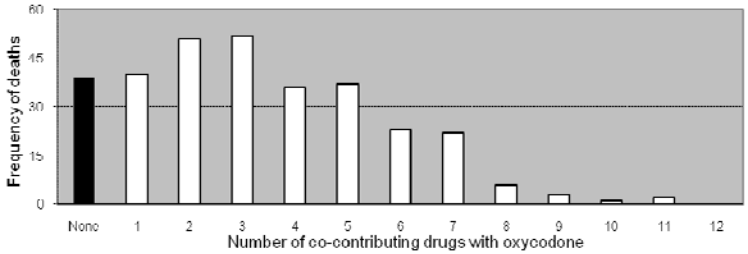
Drug	2010	2011	2012
Doxylamine	16 (4.7%)	11 (3.1%)	20 (5.4%)
Clonazepam	9 (2.7%)	14 (3.9%)	18 (4.9%)
Fentanyl	1 (0.3%)	5 (1.4%)	17 (4.6%)
Tramadol	8 (2.4%)	15 (4.2%)	17 (4.6%)
Venlafaxine	11 (3.3%)	16 (4.5%)	15 (4.1%)
Duloxetine	5 (1.5%)	7 (2.0%)	14 (3.8%)
Fluoxetine	9 (2.7%)	8 (2.2%)	14 (3.8%)
Metoclopramide	8 (2.4%)	8 (2.2%)	14 (3.8%)
Pharma. morphine	10 (3.0%)	10 (2.8%)	13 (3.5%)
Zopiclone	3 (0.9%)	6 (1.7%)	13 (3.5%)
Sertraline	6 (1.8%)	4 (1.1%)	12 (3.3%)
Amphetamine	10 (3.0%)	19 (5.3%)	11 (3.0%)
Chlorpromazine	2 (0.6%)	4 (1.1%)	10 (2.7%)
Promethazine	10 (3.0%)	8 (2.2%)	8 (2.2%)
Risperidone	3 (0.9%)	11 (3.1%)	8 (2.2%)
Buprenorphine	4 (1.2%)	14 (3.9%)	4 (1.1%)

Victorian acute drug toxicity deaths including oxycodone, 2000-2012



Drug involvement in oxycodone deaths

Drug involvement	n	%
Oxycodone alone	39	12.5%
Multiple drugs including oxycodone	273	87.5%
Total deaths	*312*	*100.0%*



Contributing drug types with oxycodone

Drug type	n	%
Medications	262	84.0%
Alcohol	79	25.3%
Illegal drugs	52	16.7%
Oxycodone alone	*39*	*12.5%*

Top contributing medication groups	n	%
Benzodiazepines	205	65.5%
Antidepressants	141	45.0%
Opioid analgesics	131	41.9%
Non-opioid analgesics	50	16.0%
Antipsychotics	47	15.0%
Non-benzo anxyolitics, sedatives, hypnotics	37	11.8%

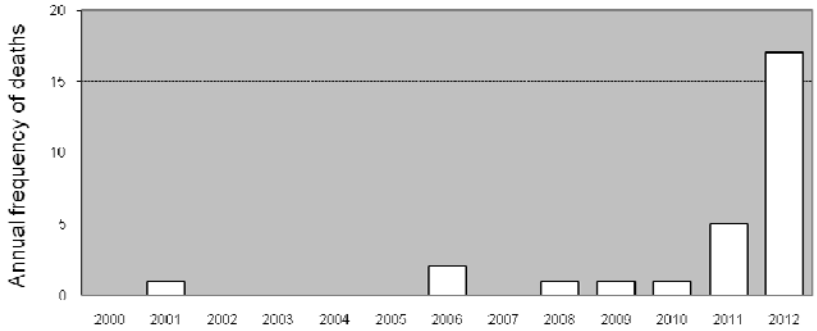
Individual co-contributing drugs with oxycodone

Drug	n	%
Diazepam	145	46.5%
Alcohol	79	25.3%
Codeine	76	24.4%
Alprazolam	51	16.3%
Paracetamol	46	14.7%
Amitriptyline	38	12.2%
Oxazepam	37	11.9%
Citalopram	34	10.9%
Heroin	33	10.6%
Temazepam	32	10.3%
Methadone	27	8.7%
Tramadol	27	8.7%
Quetiapine	23	7.4%
Doxylamine	22	7.1%
Mirtazapine	20	6.4%

Themes in oxycodone deaths

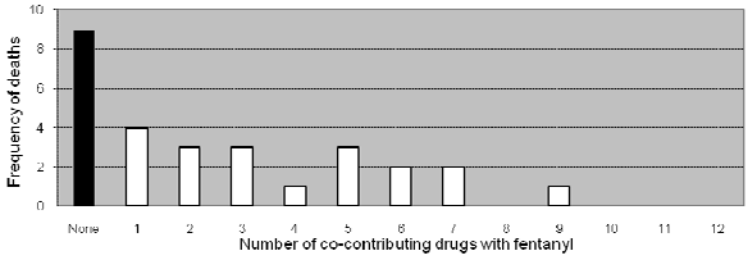
- Oxycodone was prescribed to the deceased.
- Chronic pain was overlaid with substance abuse.
- Chronic pain, opioid dependence, depression and suicide commonly co-occurred.
- Prescription shopping for benzodiazepines was common.

Victorian acute drug toxicity deaths including fentanyl, 2000-2012



Drug involvement in fentanyl deaths

Drug involvement	n	%
Fentanyl alone	9	32.1%
Multiple drugs including fentanyl	19	67.9%
Total	28	100.0%



Contributing drug types with fentanyl

Drug type	n	%
Medications	18	64.3%
Fentanyl alone	*9*	*32.1%*
Illegal drugs	6	21.4%
Alcohol	3	10.7%

Top contributing medication groups	n	%
Opioid analgesics	13	46.4%
Benzodiazepines	12	42.9%
Antidepressants	9	32.1%
Antipsychotics	5	17.9%
Non-opioid analgesics	3	10.7%

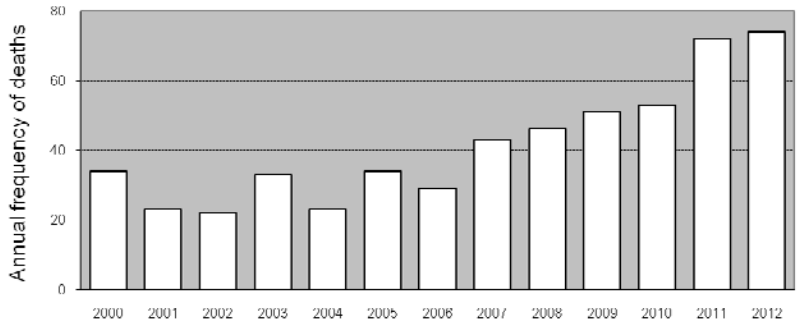
Individual co-contributing drugs with fentanyl

Drug	n	%
Diazepam	10	35.7%
Oxycodone	4	14.3%
Alcohol	3	10.7%
Alprazolam	3	10.7%
Amitriptyline	3	10.7%
Codeine	3	10.7%
Methadone	3	10.7%
Oxazepam	3	10.7%
Paracetamol	3	10.7%
Quetiapine	3	10.7%

Themes in fentanyl deaths

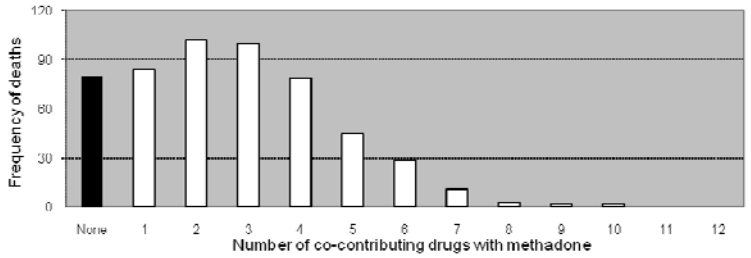
- Patch injection.
- Regional areas.

Victorian acute drug toxicity deaths including methadone, 2000-2012



Drug involvement in methadone deaths

Drug involvement	n	%
Methadone alone	80	14.9%
Multiple drugs including methadone	457	85.1%
Total	537	100.0%



Contributing drug types with methadone

Drug type	n	%
Medications	412	76.7%
Illegal drugs	182	33.9%
Methadone alone	*80*	*14.9%*
Alcohol	76	14.2%

Top contributing medication groups	n	%
Benzodiazepines	332	61.8%
Antidepressants	187	34.8%
Opioid analgesics	150	27.9%
Antipsychotics	96	17.9%

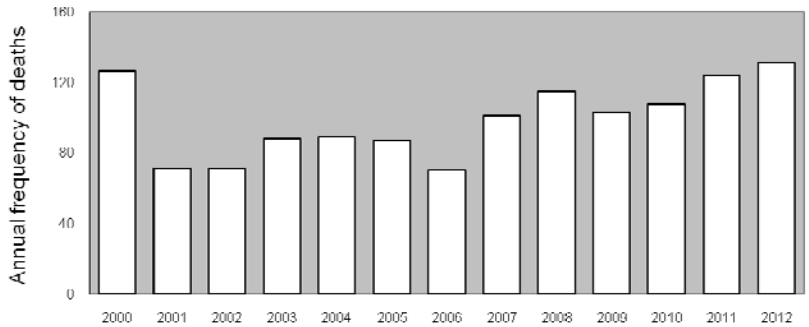
Individual co-contributing drugs with methadone

Drug	n	%
Diazepam	270	50.3%
Heroin	140	26.1%
Codeine	94	17.5%
Alcohol	76	14.2%
Alprazolam	72	13.4%
Oxazepam	62	11.5%
Methamphetamine	54	10.1%
Temazepam	46	8.6%
Olanzapine	39	7.3%
Mirtazapine	38	7.1%
Amitriptyline	37	6.9%
Nitrazepam	36	6.7%
Quetiapine	36	6.7%
Paracetamol	32	6.0%

Themes in methadone deaths

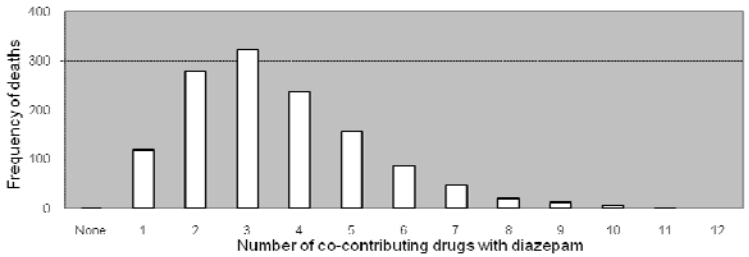
- Involvement of takeaway dosing for opioid pharmacotherapy.
- Probable diversion of methadone.
- Co-prescription of multiple benzodiazepines with methadone to the deceased.

Victorian acute drug toxicity deaths including diazepam, 2000-2012



Drug involvement in diazepam deaths

Drug involvement	n	%
Diazepam alone	2	0.2%
Multiple drugs including diazepam	1282	99.8%
Total	1284	100.0%



Contributing drug types with diazepam

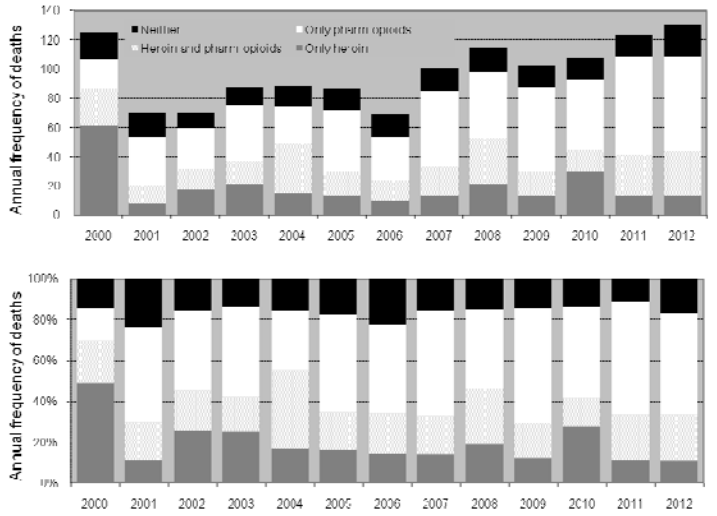
Drug type	n	%
Medications	1159	90.3%
Illegal drugs	584	45.5%
Alcohol	403	31.4%
Diazepam alone	*2*	*0.2%*

Top contributing medication groups	n	%
Opioid analgesics	826	64.3%
Antidepressants	604	47.0%
Benzodiazepines	481	37.5%
Antipsychotics	287	22.4%
Non-opioid analgesics	182	14.2%

Individual co-contributing drugs with diazepam

Drug	n	%
Heroin	526	41.0%
Codeine	421	32.8%
Alcohol	403	31.4%
Methadone	270	21.0%
Temazepam	182	14.2%
Oxazepam	174	13.6%
Paracetamol	159	12.4%
Alprazolam	149	11.6%
Oxycodone	145	11.3%
Amitriptyline	129	10.0%
Methamphetamine	116	9.0%
Quetiapine	112	8.7%
Citalopram	104	8.1%
Olanzapine	98	7.6%
Venlafaxine	92	7.2%
Mirtazapine	91	7.1%

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.

Summary

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

Victorian coroners' recommendations

Section 72, Coroners Act 2008 (Vic):

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.
3. If a public statutory authority or entity receives recommendations made by the coroner under subsection (2), the public statutory authority or entity must provide a written response, not later than 3 months after the date of receipt of the recommendations, in accordance with subsection (4).
4. A written response to the coroner by a public statutory authority or entity must specify a statement of action (if any) that has, is or will be taken in relation to the recommendations made by the coroner.
5. The coroner must:
   (a) publish the response of a public authority or entity on the Internet […]

Recommendations and responses published at:
http://www.coronerscourt.vic.gov.au/home/coroners+written+findings/

Coronial recommendations: Real-time prescription monitoring (1)

"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.

Coronial recommendations: Real-time prescription monitoring (2)

"The Victorian Department of Health implement a real-time prescription monitoring program within 12 months, in order to reduce deaths and harm associated with prescription shopping."

Coroner John Olle, finding in death of James 518109, delivered 15 February 2012.

"The department maintains that, for a real-time prescription monitoring system to reach its full potential in reducing deaths and harms from prescription shopping, it must be nationally implemented. To that end, the department continues to engage in good faith with the Commonwealth on its proposal to roll-out an enhanced version of the Tasmanian real time prescription monitoring system nationally."

Response from Department of Health, dated 22 May 2012.

Coronial recommendations: Takeaway methadone dosing (1)

"That regulatory authorities establish a clear mechanism of supervision of the safety arrangements for storage of take away dosage of methadone."

Coroner Kim Parkinson, finding in death of Melissa Irwin 571209, delivered 16 December 2010.

"It is not practically possible for the department to oversee the safe storage of take-away doses by pharmacotherapy clients in their private residences."

Response from Victorian Department of Health, dated 19 May 2011.

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"That there be a prohibition upon take away methadone dosage unless a responsible regulatory authority is satisfied that safe storage arrangements are in place in the premises in which the drug is to be stored."

Coroner Kim Parkinson, finding in death of Melissa Irwin 571209, delivered 16 December 2010.

"The Department of Health's policy on the provision of pharmacotherapy […] contains numerous safeguards to ensure the safe storage of methadone take-away doses."

Response from Victorian Department of Health, dated 19 May 2011.

Coronial recommendations: Takeaway methadone dosing (2)

"That the Minister for Health take steps to prohibit the supply of 'take-away' doses of the Schedule 8 drug methadone by drug addicted persons and require that methadone therapy be delivered and administered at a pharmacy premises and under the supervision of a registered pharmacist."

Coroner Kim Parkinson, finding in death of Damien Perceval 206309, delivered 28 September 2012.

"The overall long-term success of maintenance therapy and patient retention in treatment is contingent on providing patients the opportunity to normalise their lives through the provision of take-away doses."

Response from Victorian Department of Health, received 24 December 2012.

"It's like calling for an end to cars on the basis of one or two road fatalities! […] We have to weigh these two tragic accidents against the thousands of people who benefit from pharmacotherapy treatment."

Media release from Harm Reduction Victoria, published 19 October 2012.

Coronial recommendations: Rescheduling benzodiazepines

"To reduce the harms and death associated with benzodiazepine use in Victoria, within 12 months the Therapeutic Goods Administration of the Australian Government Department of Health and Ageing should move all benzodiazepines into Schedule 8 of the Standard for the Uniform Scheduling of Medicines and Poisons."

Coroner Audrey Jamieson, finding in death of David Trengrove 404208, delivered 18 May 2012.

"[...] the TGA does not agree with the coroner's recommendation that all benzodiazepines should be moved into Schedule 8 of the Standard for the Uniform Scheduling of Medicines and Poisons."

Response from Therapeutic Goods Administration, dated 6 November 2012.

"The delegate of the Secretary of the Department of Health and Ageing hereby gives notice that the proposed amendments to the current Poisons Standard contained in this notice will be referred for scheduling advice to relevant expert advisory committees. […] Proposal to reschedule benzodiazepines from Schedule 4 to Schedule 8."

Invitation for public comment from Therapeutic Goods Administration, dated 29 November 2012.

Coronial recommendations: Better prescribing guidelines

"To reduce the harms and death associated with benzodiazepine use in Victoria, the Royal Australian College of General Practitioners should update its guidelines for appropriate prescribing of benzodiazepines in the context of general practice within 12 months."

Coroner Audrey Jamieson, finding in death of David Trengrove 404208, delivered 18 May 2012.

"The RACGP confirms that the Coroner's recommendations will be implemented. The College agrees that the 2000 benzodiazepines guidelines to not reflect current advances in evidence and has therefore removed these from the website until they can be updated."

Response from RACGP, dated 6 November 2012.

* * * *

"That within three months of receiving this finding, the Chair of the RACGP Victoria Faculty advise the Coroners Court of Victoria regarding progress that the RACGP has made toward developing guidelines to assist Victorian general practitioners who prescribe opioids to treat chronic non-malignant pain […]"

Coroner Audrey Jamieson, finding in death of David Trengrove 404208, delivered 18 May 2012.

"At the present time, the RACGP is undertaking a project of relevance to the Coroner's recommendations. The Clinical Indicators Project, which commenced in 2011, involves the development of a set of clinical indicators for general practice to monitor and improve the quality of clinical services […]"

Response from RACGP, dated 6 November 2012.

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

Coroners Court of Victoria