



Harms Associated with Injection of Pharmaceutical Opioids in Australia

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Background

- Global use of opioid analgesic medicines has doubled over the past decade:
 - 96% of use occurred in North America, Western and Central Europe and Oceania (2011-2013)
- In Australia over the past decade (2000-2010):
 - Fourfold increase in the proportion of ANSPS respondents reporting last injecting pharmaceutical opioids (PO): from 4% to 16%¹
 - Among opioid treatment episodes, the proportion where PO were identified as the main drug of concern almost doubled from 19% to 33%²

Background: PO injection health-related harms

- IV PO use implicated in recent outbreak of HIV infection among people who inject drugs (PWID) that occurred in Scott County, Indiana, USA
- Increased risk of skin and soft tissue infections and other adverse health outcomes, including pulmonary embolization
- Majority (67%) of accidental opioid overdose deaths in Australia in 2011 were attributed to opioids other than heroin¹

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1. Roxburgh & Burns, Accidental drug-induced deaths due to opioids in Australia, 2011 (2015)

Methods

- Australian NSP Survey (ANSPS)
- Bio-behavioural sentinel surveillance system:
 - Annually repeated cross sectional survey since 1995
 - Self-administered questionnaire and provision of a capillary dried blood spot for HIV and HCV antibody testing
 - Conducted at ~50 NSPs nationally, including in regional/remote areas
 - Representative of PWID who attend NSPs¹



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1. Topp et al, JAIDS 2008

Methods

- ANSPS data collection in 2014:
 - All POs injected in the last 6 months
 - PO injected most frequently in the last 6 months
 - Heating and filtering prior to injection at last PO injection
 - Type of filter used at last PO injection
- Primary outcome was recent (past six months) injection of PO
- PO defined as any opioid analgesics, excluding OST (methadone, buprenorphine and buprenorphine-naloxone)

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Results: Sample

- 2,378 NSP attendees completed the 2014 ANSPS
- Response rate: 48%
- 50 NSP services participated:
 - 20 NSPs from regional and remote areas
 - Contributed ~25% of respondents
- 41% of respondents had recently injected PO
- People who did not answer questions on recent PO injection (n=174) and those who last injected stimulants (n=576) or PIEDS (140) and did not inject PO in the last 6 months were excluded

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Results: Sample characteristics

- 1,488 people were identified as opioid injectors
 - 68% were men
 - 81% identified as heterosexual
 - 85% were born in Australia
 - 14% identified as Indigenous Australians
 - Median age was 40 years
 - Median of 20 years since first injected drugs
 - 46% last injected heroin
 - 57% injected daily or more frequently in the last month
 - 44% currently on OST

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1. Topp et al, *JAIDS* 2008

Results:

Type and main PO injected in the last 6 months

	Injected last 6 months N (%)	Main PO injected last 6 months N (%)	Exclusively injected this PO N (%)
	N=848	N=848	N=848
Codeine	100 (12)	42 (5)	29 (3)
Fentanyl	193 (23)	72 (8)	43 (5)
Morphine	569 (67)	409 (48)	270 (32)
Pethidine	27 (3)	3 (<1)	4 (<1)
Hydromorphone	52 (6)	12 (1)	8 (1)
Oxycontin®	368 (43)	175 (21)	95 (11)
Targin®	17 (2)	5 (<1)	6 (1)
Other oxycodone	155 (18)	37 (4)	27 (3)
More than one	--	91 (11)	366 (43)
Not reported	--	2 (<1)	--

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3. Larney S (2016) pers. comm.

Results:

Factors independently associated with recent PO injection among people who inject opioids

Variable	Total sample (N= 1,488)	No recent PO Injection (N=640)	Recent PO injection (N=848)	Multivariate relationship	
				AOR (95% CI)	p-value
Born in Australia (%)	1,264 (85)	523 (82)	741 (87)	1.51 (1.10-2.07)	0.011
Ever imprisoned (%)	797 (54)	315 (49)	482 (57)	1.34 (1.06-1.69)	0.013
Daily or more frequent injection last month (%)	844 (57)	300 (47)	544 (64)	1.65 (1.31-2.08)	<0.001
Used another's used syringe in last month (%)	247 (17)	67 (10)	180 (21)	2.00 (1.43-2.78)	<0.001
Used another's used drug preparation item in last month [†] (%)	460 (31)	153 (24)	307 (36)	1.55 (1.19-2.01)	0.001
Self-reported overdose in previous 12 months	309 (21)	98 (15)	211 (25)	1.81 (1.36-2.42)	<0.001
History of OST (%)					
Current (reference)	662 (44)	360 (56)	302 (36)	--	
In past	492 (33)	169 (26)	323 (38)	1.88 (1.45-2.45)	<0.001
Never	326 (22)	109 (17)	217 (26)	2.23 (1.65-3.01)	<0.001
Geographic location (%)					
Major city (reference)	1,192 (80)	581 (91)	611 (72)	--	
Inner Regional	147 (10)	34 (5)	113 (13)	3.27 (2.21-5.23)	<0.001
Outer regional/remote	149 (10)	25 (4)	124 (15)	5.50 (3.42-8.84)	<0.001

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3. Larney S (2016) pers. comm.

Results:

Among 1,488 people were identified as opioid injectors

- 60% heated their main PO the last time they injected
- 85% used a filter the last time they injected their main PO:
 - Cigarette filter (37%, n=315)
 - Cotton wool (23%, n=195)
 - Wheel filters (7%, n=58)
 - Combination of filters (14%, n=120)

Summary

- Injection of POs in Australia is:
 - Highly prevalent among Australian PWID
 - Geographically widespread
 - Typically takes place in a context of extensive poly-drug use among people who have significant histories of injection drug use
- People who inject PO are at high risk of:
 - Overdose
 - Injection related injuries and disease
 - BBV infection, including HIV and HCV infection and HCV reinfection/superinfection

Conclusion

- Geographically widespread nature of PO injection requires:
 - High coverage of NSP beyond major cities, especially outer regional/remote areas
 - Access to needles and syringes used to inject PO
 - ? Assess potential unmet demand for OST in this group
- Harm reduction services must:
 - Deliver health education regarding the specific risk of overdose and the need to adequately filter before injection
 - Ensure that supplies of take home naloxone and specialist pill filters are readily available to this sub-population.

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