



Title:	Unintentional pediatric opioid exposures as reported to the Global Toxicosurveillance Network (GTNet) from 2008-2010
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Meeting:	International Congress of the European Association of Poisons Centres and Clinical Toxicologists (EAPCCT)
Date:	May 2013
Location	Copenhagen Denmark

Abstract:

Background: Lack of awareness regarding the public health hazard of children under age 6 years being unintentionally exposed to prescription opioid medications currently exists. This study examines the occurrence of these exposures reported to poison centres in Australia, Germany, Italy, the Netherlands, Switzerland, the United Kingdom, and the United States (US).

Methods: Pediatric exposures (< age 6 years) to oxycodone, buprenorphine, and methadone reported to poison centres from 2008–2010 were obtained using a standardized tool. All participating centres manage calls from health care providers. Australia, Italy, Germany, Switzerland and the US also manage calls from the public. Rates are expressed as percentages of the total number of unintentional exposure calls with confirmed patient age received by each poison centre for the opioid of interest.

Results: Unintentional opioid pediatric exposures increased from 2008–2010 (Table 1). Within Australia, US, Switzerland, and Italy, the percent of exposure calls concerning buprenorphine was disproportionately high relative to the number of exposure calls overall. In the Netherlands and Switzerland a similar pattern was observed for methadone.

Conclusion: There have been significant increases in unintentional pediatric exposures to various opioids reported to poison centres in Europe, Australia, and US. These accidental ingestions in children to the drugs studied are extremely dangerous. Heightened awareness of this issue is critical as opioid availability/prescriptions increases so efforts can be made to minimize the risk of exposure to children. Although the number of these poisonings outside the US is small, a relative increase is noticed as well for most drugs in most countries.

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Table 1. Unintentional pediatric opioid exposures as reported to the Global Toxiconsurveillance Network from 2008–2010.

Drug Class	Country	2008	2009	2010	Total	% change in proportion from 2008–2010
Buprenorphine	Australia	9 (12%)	10 (12%)	22 (28%)	50	132%
	Germany	0 (0%)	0 (0%)	0 (0%)	0	***
	Italy	3 (10%)	3 (16%)	4 (29%)	13	176%
	Netherlands	1 (17%)	1 (25%)	3 (38%)	5	***
	Switzerland	2 (29%)	3 (20%)	1 (6%)	8	-78%
	USA	689 (39%)	1007 (42%)	1173 (43%)	3198	10%
	UK	3 (6%)	8 (15%)	6 (13%)	17	104%
Methadone	Australia	10 (12%)	7 (8%)	9 (12%)	38	-3%
	Germany	1 (3%)	0 (0%)	1 (2%)	3	-35%
	Italy	4 (6%)	5 (9%)	7 (10%)	25	62%
	Netherlands	4 (5%)	5 (7%)	7 (9%)	17	73%
	Switzerland	2 (4%)	5 (7%)	5 (7%)	14	86%
	USA	247 (8%)	307 (9%)	274 (8%)	1082	1%
	UK	14 (18%)	8 (12%)	11 (15%)	33	-16%
Oxycodone	Australia	32 (8%)	44 (8%)	33 (6%)	144	-25%
	Germany	3 (8%)	1 (3%)	2 (5%)	7	-41%
	Italy	0 (0%)	1 (13%)	1 (11%)	2	***
	Netherlands	2 (5%)	3 (9%)	9 (14%)	17	170%
	Switzerland	2 (11%)	0 (0%)	1 (3%)	3	***
	USA	1381 (12%)	1579 (12%)	1562 (11%)	5581	-7%
	UK	4 (11%)	2 (3%)	1 (2%)	7	-81%

***There are too few cases to draw an accurate percentage change in proportion of exposures.