



Title:	Trends in Intentional and Unintentional Prescription Opioid Exposures Reported to Poison Centers (PC) in Australia, Germany, Italy, Switzerland and the United States, 2007-2012
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Abstract:

Background: Prescription opioid abuse in the US has been deemed epidemic. However, abuse in other countries is not well studied. This study provides abuse rate data for three common opioids over a 6-year period in 5 countries.

Methods: Human exposures to oxycodone, buprenorphine, and methadone reported from 2007-2012 were obtained from poison centers in Eastern Australia, Italy, Switzerland and US RADARS® System. PCs in all 5 countries manage calls from healthcare providers and the public. Rates are expressed as number of exposures/100,000 population separately for intentional (IE) and unintentional (UE) exposures. IEs include; suicide, abuse, misuse, and unknown intentional. UEs include; unintentional general, unsupervised ingestions, or therapeutic errors.

Results: Rates cannot be compared between countries so changes from 2007 to 2012 were studied within each country. Oxycodone IE and UE increased dramatically in all 5 countries. Buprenorphine IE increased in both Germany and US while UE increased in Australia and US. Methadone rates were relatively stable for all countries except Germany, which illustrated a significant increase in both IE and UE rates.

Conclusion: Rising rates of opioid exposures are not unique to the US. In an attempt to better understand the types of exposures involved, it is clear that the increase is due to intentional misuse and abuse as well as unintentional pediatric accidental unsupervised ingestions and therapeutic errors.

Table on next page

Exposures/100,000 Population (rounded to 2 decimal places)			
	2007	2012	% Change 2007-2012
Oxycodone – Intentional Exposures			
Australia	1.14	3.09	172
Germany	0.15	0.35	130
Italy	<0.01	0.05	1371
Switzerland	0.11	0.45	329
United States	3.24	4.24	31
Oxycodone – Unintentional Exposures			
Australia	0.67	2.52	278
Germany	0.03	0.10	225
Italy	<0.01	0.01	153
Switzerland	0.04	0.16	313
United States	1.51	1.81	20
Buprenorphine – Intentional Exposures			
Australia	0.19	0.14	-27
Germany	0.10	0.19	92
Italy	0.03	0.02	-45
Switzerland	0.11	0.16	55
United States	0.29	0.63	118
Buprenorphine – Unintentional Exposures			
Australia	0.09	0.15	57
Germany	0.06	0.05	-13
Italy	<0.01	<0.01	-5
Switzerland	0.12	0.09	-26
United States	0.23	0.47	110
Methadone – Intentional Exposures			
Australia	0.40	0.35	-13
Germany	0.30	0.48	64
Italy	0.08	0.08	1

Switzerland	0.74	0.67	-10
United States	1.28	1.12	-12
Methadone – Unintentional Exposures			
Australia	0.17	0.17	3
Germany	0.08	0.16	110
Italy	0.02	0.01	-37
Switzerland	0.30	0.28	-9
United States	0.35	0.33	-8