



Sources of Diverted Prescription Opioids Among Substance Abusers in South Florida

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Abstract

This research examines sources of diverted pharmaceutical opioids reported by participants in a South Florida study targeting diverse populations of opioid abusers (N=782). Sources of diverted medications were hypothesized to differ according to abusers' health insurance status, physical health status, injection drug use and primary opioid of abuse.

The most common sources were dealers, sharing/trading, legitimate medical practice (e.g., unknowing medical providers), illegitimate medical practice (e.g., pill mills), and theft.

Sources varied by users' age, gender, ethnicity, primary opioid of abuse, injection drug use, physical health, and access to health insurance.

Introduction

• Access to prescription opioids among non-patients is the result of their unlawful channeling from legal sources to the illicit marketplace (diversion).

• Numerous national surveys and surveillance programs have shown a substantial rise in the abuse of prescription opioids over the past 15 years.

• Empirical data on the scope and magnitude of diversion are extremely limited.

Methods

• Eligible respondents were 18 years of age or older and reported misuse of a prescription drug 5 or more times in the previous 90 days.

• Trained interviewers administered standardized health and social risk assessments, including detailed drug use histories and sources of abused prescription medications.

• This analysis includes only those who reported a prescription opioid as their primary drug of abuse.

• High potency opioids (hydromorphone, morphine and fentanyl) were rarely reported and were combined into a single "high potency" category for analysis.

• Bivariate logistic regression models were developed to predict the use of each diversion source by demographics and by the hypothesized independent variables.

Table 1. Characteristics of prescription opioid abusers in South Florida (N=782)

Demographics	N	%
Age (mean, SD)	34.6 (10.6)	
Male gender	443	56.6
Ethnicity:		
Hispanic	123	15.7
African American/Caribbean	202	25.8
White	419	53.6
Other	38	4.9
Physical Health		
Any health insurance	356	45.5
Health currently limits activities	447	57.2
Severe pain – past 90 days	494	63.3
Substance Use (past 90 days)		
Cocaine (powder)	477	61.0
Crack cocaine	395	49.2
Heroin	138	17.6
Rx benzodiazepines	627	80.2
Injection drug use	167	21.4
Primary opioid used:		
Hydrocodone	121	15.5
IR oxycodone	454	58.1
ER oxycodone	142	18.2
Methadone	43	5.5
High potency ¹	22	2.8
DSM-IV past year dependence	730	93.3

¹hydromorphone/ fentanyl/ morphine

Results

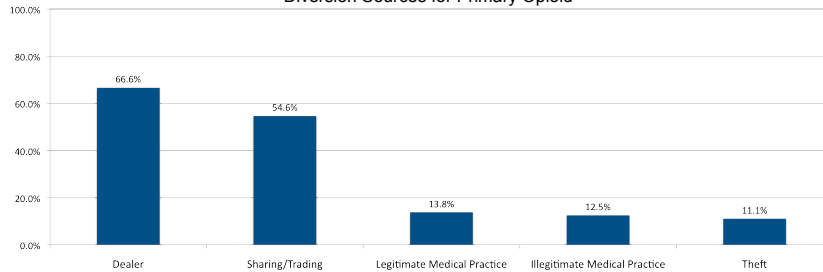
Table 2. Bivariate logistic regressions predicting sources of diverted primary opioid (N=782)

Demographics	DIVERSION SOURCE (Odds ratio (95% CI) p value)				
	Dealer	Sharing / Trading	Legit. Medical	Illegit. Medical	Theft
Age (mean)	0.966 (0.952,0.979) .000	0.966 (0.965,1.011) .744	1.006 (0.997,1.025) .550	1.004 (0.994,1.024) .727	0.948 (0.925,0.971) .000
Male gender	1.147 (0.850,1.547) .370	0.802 (0.679,1.199) .478	1.037 (0.697,1.563) .864	0.771 (0.605,1.179) .230	1.095 (0.697,1.721) .694
Ethnicity:					
Hispanic	0.778 (0.522,1.158) .216	0.555 (0.376,0.819) .003	1.084 (0.627,1.873) .773	0.506 (0.247,1.033) .061	0.669 (0.336,1.332) .253
African American	0.653 (0.469,0.910) .012	1.076 (0.779,1.485) .658	0.657 (0.396,1.091) .104	1.042 (0.645,1.685) .866	0.517 (0.285,0.938) .030
White	1.779 (1.317,2.401) .000	1.262 (0.951,1.674) .107	1.307 (0.865,1.974) .203	1.501 (0.972,2.320) .067	1.850 (1.157,2.960) .010
Physical Health					
Any health insurance	0.805 (0.597,1.085) .155	0.971 (0.731,1.288) .838	1.733 (1.149,2.613) .009	1.112 (0.728,1.700) .622	0.663 (0.416,1.050) .080
Health limits activities	0.673 (0.496,0.913) .011	1.102 (0.829,1.465) .503	1.751 (1.135,2.701) .011	1.920 (1.213,3.039) .005	0.910 (0.561,1.425) .680
Severe pain - 90 days	1.027 (0.735,1.398) .864	1.166 (0.871,1.561) .303	1.998 (1.252,3.189) .004	2.055 (1.256,3.360) .004	1.504 (0.922,2.453) .102
Substance Use- 90 days					
Injected drugs	3.537 (2.244,5.575) .000	1.057 (0.750,1.492) .751	2.073 (1.330,3.228) .001	1.391 (0.856,2.259) .183	3.030 (1.905,4.848) .000
Primary opioid used:					
Hydrocodone	0.444 (0.300,0.658) .000	0.997 (0.676,1.472) .989	1.814 (1.104,2.980) .019	0.736 (0.389,1.393) .346	0.770 (0.396,1.496) .440
IR oxycodone	1.342 (0.994,1.812) .055	1.292 (0.971,1.719) .078	1.059 (0.701,1.601) .785	1.221 (0.790,1.887) .369	1.803 (1.122,2.922) .017
ER oxycodone	1.403 (0.938,2.098) .100	0.798 (0.554,1.148) .224	0.470 (0.245,0.902) .023	0.864 (0.489,1.527) .615	0.771 (0.415,1.432) .410
Methadone	1.313 (0.663,2.601) .435	0.709 (0.383,1.314) .275	0.812 (0.313,2.112) .670	0.914 (0.351,2.381) .854	~
High potency ¹	0.490 (0.210,1.146) .490	0.685 (0.293,1.606) .385	0.985 (0.286,3.387) .981	1.574 (0.522,4.752) .421	0.784 (0.182,3.457) .759

¹hydromorphone/ remifentanyl/ morphine

² there were 0 cases of theft for primary methadone users

Diversion Sources for Primary Opioid



Discussion

• This study is the first to provide systematic empirical data on the scope and magnitude of prescription opioid diversion among diverse populations of abusers in South Florida.

• Younger age was associated with a higher likelihood of obtaining opioids through dealers and theft. These acquisition modes present perhaps the greatest legal risks to abusers, which resonates with higher levels of risk taking documented among younger drug users.

• Those with access to health insurance were more likely to obtain abused opioid medications from the legitimate medical system. Those with severe pain and physical health problems were also more likely to use physicians, legitimate or not, to obtain opioid analgesics.

• Diversion sources were predicted by the participant's primary opioid of abuse. ER oxycodone was less likely to be obtained through legitimate medical sources, while hydrocodone, a less potent painkiller, was more likely to be obtained this way. This pattern is likely related to physicians' willingness to prescribe high potency medications.

Conclusions

• Prescription opioid diversion in South Florida involves a variety of sources, most frequently dealers, sharing/trading, and medical practices. The internet was rarely reported as a source of prescription opioids by abusers.

• This information is important to the development of prevention and intervention strategies for addressing the national epidemic of prescription drug abuse. A one size fits-all approach to limiting diversion cannot address the multiple channels through which opioids move from legitimate to illegitimate markets.

• Appropriate diversion prevention strategies may be context- and location-specific. In South Florida, dealers obtain large portions of their diverted prescription opioids through tightly regulated pain clinics. In this environment, the implementation of prescription monitoring programs and specific pain clinic legislation may be particularly effective in stemming diversion.

Acknowledgments

This study was supported by Grant #R01DA021330 from the National Institute on Drug Abuse. We acknowledge the contributions of Dr. James A. Inciardi, PI of the study through 2009. The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Institute on Drug Abuse or the National Institutes of Health.

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