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## The Effect of Inmate Populations on Estimates of DSM-IV Alcohol and Drug Use Disorders in the United States

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To The Editor: Most national estimates of adult DSM-IV substance use disorder (e.g., National Epidemiologic Survey on Alcohol and Related Conditions [1], and National Survey on Drug Use and Health [2]) are based on household samples that exclude prison and jail inmates, populations known to have high rates of substance use disorders. To estimate the effect of excluding inmates, we present estimates of alcohol and drug use disorders for household and inmate populations and calculate the change in the overall prevalence of substance use disorder when these two populations are pooled.

Prevalence estimates for the combined U.S. household and inmate population are weighted averages of the survey-weighted prevalence estimates for the household population, state prison population, federal prison population, and jail population (1,3–5). As seen in Table 1, details about interviewing and how weighted averages and standard errors were calculated are reported (also see the data supplement accompanying the online version of this letter).

Including inmates increased overall projected estimates of the number of persons in the United States aged  $\geq 18$  years with an alcohol use disorder by 877,000, from 17,580,000 to 18,457,000, a 5.0% increase over the base. Estimates of the number with an illicit drug use disorder increased by 1,043,000, from 4,159,000 to 5,202,000, a 25.1% increase. Overall prevalence of the specific alcohol abuse and dependence disorders increased over the base by 4.2% and 5.9% respectively, and illicit drug abuse and dependence increased by 12.0% and 53.8%.

High rates of DSM-IV substance use disorders among inmates combined with a large inmate population means that many persons with alcohol and drug use disorders are missed by major U.S. national general population surveys. The undercount for both alcohol and illicit drug disorders is significant, but proportionately the undercount for alcohol disorders is modest while the proportionate undercount for illicit drug disorders, particularly illicit drug dependence (i.e., addiction), is large. These results likely would be accentuated for substances such as cocaine, methamphetamine, and heroin, which are rare in the household population (2) but common among inmates (4–5). In addition, prevalence rates may be particularly underestimated for men and for those minority populations that are overrepresented in the inmate population. To improve accuracy and cover the full range of cases, the U.S. surveillance system may need to be modified. In addition, further investigation of the effect of incarceration on estimates for specific subpopulations is warranted.

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The views and opinions expressed in this report are those of the authors and should not be construed to represent the views of any of the sponsoring organizations, agencies, or the U.S. government.

## Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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**Table 1**  
Effect of Adding the Inmate Population to Household Prevalence and Population Estimates of the Prevalence of Past 12 Month DSM-IV Alcohol and Drug Use Disorders in U.S. Adults

DSM-IV Disorder	Prevalence of Disorder						Weighted Population Estimate of Individuals With a Disorder (millions)						Increase From Adding Inmates (Percent)			
	Household Population		State Prison Population		Federal Prison Population		Household and Inmate Population		Household Population		State Prison Population			Federal Prison Population		
	Percent	SE	Percent	SE	Percent	SE	Percent	SE	Percent	SE	Percent	SE		Percent	SE	
Alcohol use disorder	8.5	0.24	44.3	0.72	36.3	1.35	46.6	0.78	8.8	0.55	17,580	0.523	0.052	0.302	18,457	5.0
Alcohol dependence	3.8	0.14	24.9	0.62	18.3	1.07	22.8	0.60	4.0	0.44	7,912	0.294	0.026	0.148	8,380	5.9
Alcohol abuse only	4.7	0.18	19.3	0.57	18.1	1.07	23.8	0.65	4.9	0.44	9,668	0.228	0.026	0.154	10,076	4.2
Drug use disorder	2.0	0.10	53.4	0.72	45.5	1.40	53.5	0.77	2.5	0.53	4,159	0.631	0.065	0.347	5,202	25.1
Drug dependence	0.6	0.05	36.1	0.69	28.7	1.27	35.8	0.77	0.9	0.50	1,301	0.426	0.041	0.232	2,001	53.8
Drug abuse only	1.4	0.08	17.3	0.54	16.8	1.03	17.7	0.59	1.6	0.40	2,858	0.204	0.024	0.115	3,201	12.0

<sup>a</sup>U.S. household population is based on the 2001–2002 Wave 1 National Epidemiologic Survey on Alcohol and Related Conditions for residents of households and group quarters (N=43,093) (1); state prison population is based on 2004 drug use disorder data and 2005 alcohol use disorder data for a sample of state prison inmates (N=14,499) (5, 6); federal prison population is based on 2004 drug and alcohol use disorder data aggregated from separate estimates for federal prison inmates with and without mental disorders (N=3,686) (5, 6); and jail population is based on a 2002 survey of jail inmates (N=6,982) (4). Please see the on-line data supplement for additional methods.