Prevalence of illicit drug use: Survey of Non-Medical Use of Prescription Drugs Program compared to NSDUH

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Abstract

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Aim: To compare populations and illicit drugs use estimates reported in two independent surveys: the Survey of Non-Medical Use of Prescription Drugs (NMURx), and the National Survey for Drug Use and Health (NSDUH).

Methods: NMURx is an online survey of non-medical use (NMU) of prescription drugs and illicit drug use among US adults age 18+; post-stratification weights were applied to 3Q16 data to reflect the distribution of adults in the US. Responses were compared to 2014 NSDUH data, a national survey measuring drug use. Prevalence and 95% confidence intervals (CI) were calculated for demographics and lifetime and past year illicit drug use (marijuana, cocaine powder, crack cocaine, ecstasy, GHB/GBL, heroin, and ketamine).

Results: NMURx represents 247,773,709 adults; NSDUH represents 240,248,111 adults. Similar distributions of age and gender were found; NMURx had a higher proportion of non-Hispanic (NH) Whites and incomes ≥$50,000 and lower proportion of NH Blacks and Hispanics. NMURx compared to NSDUH estimated a similar prevalence of any past year illicit use [14.6 (14.1-15.0) vs. 14.0 (13.6-14.4), respectively] and lower prevalence of lifetime use [38.0 (95%CI: 37.4-38.5) vs. 47.8 (47.1-48.4)]. For each illicit drug, past year use was higher in NMURx by ≤2 percentage points except cannabis, which was similar.

Conclusion: NMURx and NSDUH estimate national prevalence of illicit drug use, although survey designs and questions vary. These data are congruent for age, gender, and recent illicit drug use. Both data provide valuable insight into drug use in the US.

Support: RADARS® System is supported by subscriptions from pharmaceutical manufacturers. It is the property of Denver Health and Hospital Authority, a subdivision of the State of Colorado, whom retains exclusive ownership of all data. Subscribers do not participate in data collection, analysis, and do not have access to data.

Introduction

Population-based surveys are essential to monitor and understand drug use and behaviors and track trends over time. Household surveys, like the National Survey on Drugs Use and Health (NSDUH), produce national estimates but involve time consuming and costly methods. One complimentary method to produce rapid assessments and trends of national data is conducting national web-based surveys.

Aim: To compare respondent characteristics and national estimates of illicit drug use reported in two independent surveys: the RADARS® System Survey of Non-Medical Use of Prescription Drugs (NMURx) Program and NSDUH.

Methods

NMURx: 3rd quarter 2016 (ages 18+)

- Online, bi-annual cross sectional survey of the non-medical use of prescription drugs and use of illicit drugs among US adults.
- Uses quotas sampling to guarantee pre-defined distributions of respondents by census region and gender (N=30,022 respondents).
- Post stratification weights are applied to reflect the distribution of adults in the US (based on gender, region, and age).

NSDUH: 2014 (ages 18+)

- National, cross-sectional household survey which provides drug use estimates among the US civilian, noninstitutionalized population.
- Uses state-based probability sampling and computer-assisted interviewing methods.

Statistical Analysis (NMURx vs. NSDUH):

- Prevalence and 95% Confidence Intervals (CI) were calculated for demographics and lifetime and past year illicit drug use (marijuana, cocaine powder, crack cocaine, ecstasy, GHB/GBL, heroin, and ketamine).
- Comparable estimates were determined by overlapping CI (bold rows).
- All analyses were completed in SAS 9.4 (Cary, NC) using survey procedures to account for survey designs of NMURx and NSDUH.

Table 1. Demographics- NMURx vs. NSDUH

	NMURx 2016 N = 247,773,709 % (95% CI)	NSDUH 2014 N = 240,248,111 % (95% CI)
Age (years)		
18-25	**13.9 (13.4-14.4)**	**14.5 (14.2-14.9)**
26-34	**16.5 (16.1-16.9)**	**15.8 (15.3-16.2)**
35-49	**24.4 (23.9-24.9)**	**25.1 (24.6-25.6)**
50-64	**25.9 (25.4-26.4)**	**25.9 (25.2-26.5)**
65+	**19.3 (18.8-19.7)**	**18.7 (18.1-19.4)**
Gender		
Male	**48.7 (48.1-49.3)**	**48.2 (47.5-48.9)**
Female	**51.3 (50.7-51.9)**	**51.8 (51.1-52.5)**
Race/Ethnicity		
Hispanic	8.9 (8.5-9.2)	15.3 (14.8-15.8)
Non-Hispanic White	77.1 (76.6-77.7)	65.2 (64.6-65.9)
Non-Hispanic Black	7.2 (6.8-7.5)	11.7 (11.3-12.2)
Non-Hispanic AI/AN	**0.6 (0.5-0.7)**	**0.5 (0.4-0.6)**
Non-Hispanic Native HI/PI	0.2 (0.1-0.2)	0.4 (0.3-0.5)
Non-Hispanic Asian	3.6 (3.4-3.8)	5.3 (4.9-5.6)
Other	0.9 (0.8-1.1)	1.5 (1.4-1.7)
Unknown	1.5 (1.3-1.6)	NA
Total Household Income ($)		
<20,000	12.4 (12.0-12.8)	18.2 (17.7-18.7)
20,000-49,999	**29.5 (29.0-30.1)**	**31.0 (30.4-31.6)**
≥50,000	52.2 (51.6-52.8)	50.8 (50.1-51.5)
Unknown	5.9 (5.6-6.2)	NA

Abbreviations: AI/AN= American Indian/Alaska Native, HI/PI = Hawaiian/Pacific Islander
Bold rows indicate overlapping CI

Figure 1. Any Illicit Drug Use- NMURx vs. NSDUH

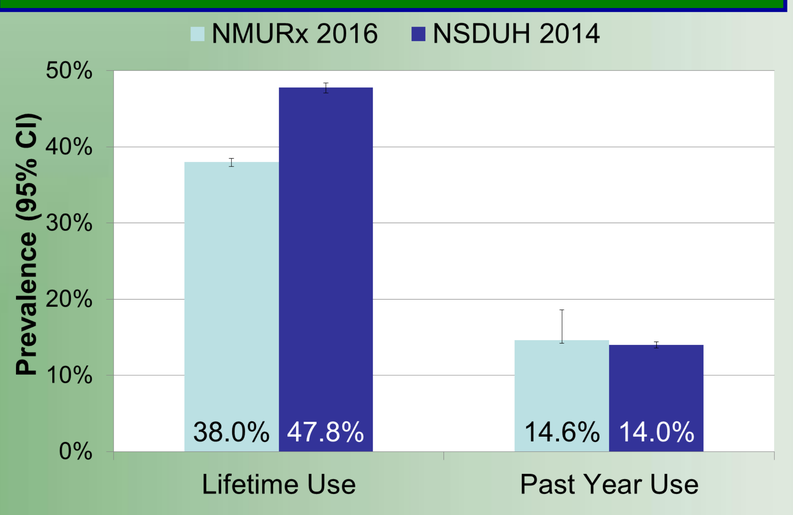

Table 2. Past Year Illicit Use by Drug- NMURx vs. NSDUH

Illicit Drug	NMURx 2016 % (95% CI)	NSDUH 2014 % (95% CI)	%-point Difference
Cannabis	**13.8 (13.3-14.2)**	**13.4 (13.0-13.8)**	**0.4**
Cocaine Powder	3.3 (3.1-3.5)	1.9 (1.7-2.0)	1.4
Ecstasy	2.4 (2.2-2.6)	0.9 (0.8-1.0)	2.0
Crack Cocaine	2.3 (2.1-2.5)	0.3 (0.2-0.4)	1.5
GHB/GBL	2.3 (2.1-2.4)	0.1 (0.0-0.1)	2.2
Ketamine	2.2 (2.1-2.4)	0.1 (0.1-0.1)	2.1
Heroin	2.1 (1.9-2.2)	0.4 (0.3-0.5)	1.7

Bold rows indicate overlapping CI

Results

- NMURx is weighted to represent 247,773,709 adults; NSDUH represents 240,248,111 adults (Table 1).
- Similar distributions of age and gender were found; NMURx had a higher proportion of non-Hispanic Whites and incomes ≥$50,000 and lower proportion of Non-Hispanic Blacks and Hispanics (Table 1).
- NMURx compared to NSDUH estimated a similar prevalence of any past year illicit use [14.6 (14.1-15.0) vs. 14.0 (13.6-14.4), respectively] and lower prevalence of lifetime use [38.0 (95%CI: 37.4-38.5) vs. 47.8 (47.1-48.4)] (Figure 1).
- For each illicit drug, past year use was higher in NMURx by about ≤2 percentage points except cannabis, which appears similar (Table 2).

Discussion

NMURx and NSDUH estimate national prevalence of illicit drug use, although survey designs and questions vary. These data are congruent for age, gender, and recent illicit drug use. National estimates of drug use in the past year were higher for NMURx, with the exception of cannabis.

Strengths: NMURx has a large sample size and is weighted to represent the distribution of adults in the US. Online administration of NMURx allows for timely drug use estimates biannually. Question wording is similar enough on the two surveys to provide comparisons.

Limitations: Comparable survey years are not yet available due to the ~2 year delay in NSDUH estimates. NMURx is not a probability-based sampling scheme; therefore, estimates may not be representative of the target population.

Conclusions

Both data sources provide valuable insight into drug use in the US and could complement each other. NMURx is a valuable data source to provide timely, national estimates to monitor illicit drug use trends over time.

Support

The RADARS® System is supported by subscriptions from pharmaceutical manufacturers for surveillance, research and reporting services. RADARS ® System is the property of Denver Health and Hospital Authority, a political subdivision of the State of Colorado. Denver Health retains exclusive ownership of all data, databases and systems. Subscribers do not participate in data collection or analysis, nor do they have access to the raw data.

Conflict of Interest

The authors are affiliated with the RADARS® System, an independent nonprofit post-market surveillance system that is supported by subscription fees from pharmaceutical manufacturers. None of the authors have a direct financial, commercial, or other relationship with any of the subscribers.

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None

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