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Sources of nonmedically used prescription psychotherapeutic drugs using real-world data from adolescents and adults assessed for substance use treatment--2014-2022

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Abstract

Background: Nonmedical use (NMU) of prescription psychotherapeutic drugs (PPD) may increase risk for significant morbidity and mortality in the overdose crisis.

Objective: This study examines sources of PPD using real-world data from adolescents and adults reporting past 30-day NMU of PPDs.

Methods: A convenience sample of individuals aged 10 years assessed for substance use disorders (SUD) treatment was analyzed using the 2014–2022 National Addictions Vigilance Intervention and Prevention Program datasets. PPD include prescription opioids, prescription tranquilizers/sedatives, and prescription stimulants.

Results: Overall, among assessments of adolescents aged 10–18 years (N = 1991) and young adults aged 19–24 years (N = 15,166), “family/friend” (46.08–47.41 %) and “dealer” (33.82–42.71 %) were the most common sources. Among assessments of adults aged 25 years (N = 89,225), “own prescription” was the most common source and increased in frequency as age increased. Across all age groups, “family/friend” was the most frequent source for all drug classes (41.96–48.76 %) except for nonmedically used buprenorphine/methadone, for which “own prescription” was the most common source (51.85 %) among adults.

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Author statement

XJ: Conceptualization, methodology, investigation, formal analysis, writing - original draft, writing - review & editing. TDG: data curation, methodology, validation, investigation, writing - review & editing. ZI: Resources, methodology, investigation, writing - review & editing. SC: Resources, methodology, investigation, writing - review & editing. JLG: Resources, methodology, investigation, writing - review & editing. GPG: Supervision, resources, methodology, investigation, writing - review & editing. All authors have contributed to and approved the final manuscript.

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Disclaimer

The findings and conclusions in this article are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

Declaration of competing interest

The authors report no declarations of interest.

Conclusions: Our study demonstrates heterogeneity in sources of nonmedically used PPD across age groups. Tailored prevention strategies for different age groups and improving timely access to medical care to ensure proper treatment of chronic medical conditions including SUD are needed.

Keywords

Prescription psychotherapeutic drugs; Nonmedical use; Source of drug procurement; Adolescents; Adults

1. Introduction

Nonmedical use (NMU) of prescription psychotherapeutic drugs (PPD; including prescription opioids, stimulants, tranquilizers/sedatives) has received increasing focus given the recent unprecedented opioid epidemic.¹ While prevention strategies have been developed,^{2,3} the frequency of NMU of PPD remains a concern in the United States (U.S.). In 2021, 8.7, 4.9, and 3.7 million people aged 12 years reported past-year NMU of prescription opioids, tranquilizers/sedatives, and stimulants, respectively.⁴ NMU of any of the aforementioned PPD can lead to serious adverse consequences such as substance use disorders (SUD), emergency department visits, and overdose deaths.⁵

Furthermore, the proliferation of counterfeit pills resembling PPD but containing illicit drugs (e.g., illicitly manufactured fentanyl (IMF)) may lead to increased overdose deaths.^{6,7} Gaining a comprehensive understanding of the sources of nonmedically used PPD may inform tailored prevention and treatment initiatives.

This study examines sources of nonmedically used PPD using real-world data from U.S. adolescents and adults assessed for SUD treatment who reported past 30-day NMU of any PPD.

2. Methods

This cross-sectional study among individuals aged 10 years uses the National Addictions Vigilance Intervention and Prevention Program (NAVIPPRO) Comprehensive Health Assessment for Teens (CHAT) and Addiction Severity Index-Multimedia Version (ASI-MV) datasets. Data from January 1, 2014, through September 30, 2022, were analyzed. Adolescents aged 10–18 years (N = 15,682) and adults aged >18 years (N = 389,051) were derived from the CHAT dataset and ASI-MV dataset, respectively. Both CHAT and ASI-MV are validated clinical assessment tools, collecting information on substance use patterns and demographic information among a convenience sample of U.S. individuals assessed for SUD treatment.^{8–10} During the study period, 484,292 assessments were completed from 1085 sites located in 46 states. Individuals could be assessed multiple times throughout the study period; therefore, the unit of analysis was the assessment and not the individual. More information about these datasets is available in prior publications.^{8–10}

PPD includes prescription opioids (including buprenorphine and methadone), tranquilizers/sedatives*, and stimulants. NMU of prescription opioids or stimulants is defined as any

use that does not meet the following criteria: 1) obtained the medication ONLY from their own prescription; 2) did not use the medication via an alternate route of administration; 3) reported zero days of use in a way not prescribed by their doctor to treat a medical condition; and 4) for opioids only, reported having taken a past 30-day prescribed opioid for pain. In the CHAT assessment only, NMU of prescription sedatives/tranquilizers is defined as a response of “Yes, in the past 30 days” to the question “Have you ever used prescription sedatives/tranquilizers not as prescribed or to get high?”.

Consistent with previous studies,^{4,8} sources of nonmedically used PPD were categorized as: 1) “family/friend” (i.e., bought from, stole from, or given by family members or friends), 2) “dealer” (i.e., purchased from a known seller), 3) “own prescription” (i.e., prescription from a single physician or multiple physicians), 4) “prescription forgery” (i.e., wrote or purchased a counterfeit prescription), 5) “internet” (i.e., purchased online without a physician’s visit or prescription), 6) “stolen”, and 7) “other” (i.e., traded for the prescription drug, or other method). Sources of procurement were not mutually exclusive; thus, the sum of response categories may be greater than 100 %.

An estimate of each source of procurement was calculated as a percentage by dividing the number of assessments indicating each source of nonmedically used PPD by the number of assessments reporting past 30-day NMU of any PPD. Our analysis was also stratified by age, sex, race/ethnicity, U.S. Census Bureau region, assessment year, and PPD class. We separated buprenorphine and methadone from the prescription opioid group since these medications are commonly used to treat opioid use disorder (OUD). All analyses were conducted using SAS 9.4 (Cary, NC).

3. Results

3.1. Source by characteristics

Of all assessments, 21.97 % (N = 106,382[†]) reported past 30-day NMU of any PPD.

Overall, the most common source of any past 30-day nonmedically used PPD was from the responders’ “own prescription” (53.18 %), followed by “family/friend” (39.39 %), “dealer” (32.79 %), and “other” (21.06 %). Lesser reported sources were “stolen”, “prescription forgery,” or “internet” (all <5 %; Fig. 1A).

The pattern of source differed across age groups (Fig. 1B). Among assessments of adolescents aged 10–18 years (N = 1991) and young adults aged 19–24 years (N = 15,166), “family/friend” (46.08–47.41 %) and “dealer” (33.82–42.71 %) were the most common sources. However, unlike those aged 10–18 years, “own prescription” was the third highest source among those aged 19–24 years. In assessments of adults aged 25 years (N =

*In the NAVIPPRO ASI-MV dataset, source of past 30-day nonmedical use of prescription tranquilizer/sedative is not collected.

[†]The 106,382 ASI-MV and CHAT assessments reporting past 30-day NMU of any PPD between 2014 and 2022 were completed by 93,126 unique individuals (i.e.: 12.46 % of ASI-MV and CHAT assessments were repeat assessments, meaning they were completed by an individual who had already completed one assessment during the study period). Of the 93,126 unique individuals, 83,093 (89.23 %) completed the assessment only once; 7826 (8.40 %) completed the assessment twice, 1569 (1.68 %) completed the assessment three times, and 638 (0.69 %) completed more than three assessments. Among the 10,033 unique individuals assessed multiple times between 2014 and 2022, 5311 (52.94 %) were measured across different assessment years without being assessed multiple times within each individual assessment year.

89,225), “own prescription” was the most common source and increased in frequency as the age category increased (from 52.22 % for ages 25–34 years to 75.65 % for ages ≥ 65 years). Fewer assessments of adults aged ≥ 65 years reported “family/friend” (17.37 %) and “dealer” (14.97 %) as a source of procurement. “Stolen” as a source of procurement was common in younger age groups (13.13–15.85 % among assessments of adolescents aged 10–18 years) but reported less frequently among assessments of adults ≥ 19 years (<5.45 % of each age group).

Assessments of females reported a higher percentage of procurement from “own prescription” (57.06 % vs 49.68 %) and “family/friend” (42.94 % vs 36.20 %), and a lower percentage of procurement from a “dealer” (30.61 % vs. 34.76 %), compared to assessments of males. Among race/ethnicity groups, assessments of Non-Hispanic Black people reported the lowest percentage of procurement from “own prescription” (49.41 %) and “family/friend” (33.69 %). Across U.S. Census Bureau regions, “own prescription” was the most common source, with the highest percentage reported in the West (59.53 %). Procurement from “family/friend” (43.97 %) and “dealer” (35.77 %) were highest in the Midwest and South, respectively. The pattern of source did not change yearly between 2014 and 2022, with “own prescription” being the most common source (from 47.81 % in 2014 to 61.27 % in 2022), followed by “family/friend” (from 44.37 % in 2014 to 26.24 % in 2022) (Table-1).

3.2. Source by drug class

Differences were observed in patterns of source of procurement when analyzed by drug class among assessments of those aged 10–18 and ≥ 19 years (Table-2). Across both age groups, “family/friend” was the most frequent source for all drug classes (41.96–48.76 %) except for prescription buprenorphine/methadone. Among all assessments indicating past 30-day prescription buprenorphine/methadone NMU (N = 65,162), “own prescription” was the most common source (51.74 %), followed by “family/friend” (32.86 %), and “dealer” (27.64 %). Assessments of adults (≥ 19 years) (N = 65,004) accounted for most of this pattern. In contrast, among assessments of adolescents (10–18 years) (N = 158), “dealer” was the most common source (42.41 %) of nonmedically used buprenorphine/methadone. Only 7.59 % of adolescent assessments reporting NMU of buprenorphine/methadone indicated “own prescription” as the source.

For past 30-day prescription opioid (excluding buprenorphine and methadone) and stimulant NMU, assessments of adults (≥ 19 years) also reported a higher percentage of “own prescription” sources compared to adolescents (10–18 years) (opioids: 37.97 % vs 8.41 %; stimulants: 26.68 % vs 16.45 %). Of the adolescent assessments indicating past 30-day prescription opioid or tranquilizer/sedative NMU, more than 10 % reported “stolen” as the source, which was higher than the percentage sourced from “own prescription” (opioids: 14.02 % vs 8.41 %; tranquilizers/sedatives: 11.53 % vs 9.70 %).

4. Discussion

This study examined the sources of past 30-day nonmedically used PPD among assessments of U.S. adolescents and adults between 2014 and 2022. We found that NMU of “own

prescription” increased with age, whereas adolescent assessments reported “family/friend” and “dealer” as the most common sources.

This study builds upon previous studies that evaluated sources of each PPD separately.^{8,11-15} Our findings highlight the significant variation in sources of procurement of nonmedically used PPD across age groups and emphasize the importance of tailored prevention strategies for different age groups. The high percentage of older adult assessments reporting obtaining prescription opioids (including buprenorphine/methadone) or stimulants for NMU from one’s own prescription observed in our study may result from 1) more PPD, especially prescription opioids, being prescribed to older adults¹⁶⁻¹⁸; 2) undertreated chronic medical conditions such as pain or OUD, or perceived cognitive enhancement.^{4,11,19} Since the harms of NMU of PPD could be magnified among older adults,^{20,21} careful screening and monitoring of older adults prescribed any PPD appears warranted. The *2022 CDC Clinical Practice Guideline for Prescribing Opioids for Pain* provides recommendations for clinicians providing pain care, including those prescribing opioids, for outpatients aged 18 years.²² CDC recommends that persons with pain receive appropriate pain treatment, with careful consideration of the benefits and risks of all treatment options in the context of the patient’s circumstances. Furthermore, we found that approximately 15 % of adults aged 65 years reported “dealer” as a source of procurement. Emerging data suggest that adults aged 65 years experienced the largest percentage increase (28 %) in drug overdose death rates between 2020 and 2021 compared to other age groups.²³ Most of these overdose deaths involved illicitly manufactured drugs.²⁴ Tailored care is needed to meet the unique physical, cognitive, and social needs of older adults.²⁵

“Family/friend” was the most common source of procurement in adolescent assessments, highlighting the need for education on safe storage and disposal of PPD and the dangers of prescription diversion.^{12,13} “Dealer” was another commonly reported source in adolescent assessments which poses the additional threat of obtaining counterfeit pills that may contain IMF or other illicit drugs. Given the potency of IMF, adolescents exposed to IMF are at high risk for fatal overdose.⁶ Education on IMF and counterfeit pills and improving adolescents’ awareness about their risks is important. Access to dealers of PPD may be facilitated through social media and e-commerce platforms.⁶ However, only around 1 % of adolescents reported “internet” as a source of procurement in our study. This may be due to concerns about the risk of detection and seizures by law enforcement when buying drugs via the internet.²⁶

Our data underscore the importance of “own prescription” as a source of nonmedically used buprenorphine/methadone among adults being evaluated for SUD treatment. Over half (52 %) of adult assessments reporting NMU of buprenorphine/methadone obtained the medication from their own prescription. It is important to further explore the reason for these findings in an effort to reduce misconceptions about the perceived harm of buprenorphine/methadone.²⁷ Notably, previous research has found that the primary motivation for non-prescribed use of buprenorphine/methadone among patients with OUD is to avoid withdrawal symptoms rather than “getting high”.²⁸⁻³⁰ Clinicians should screen for and identify adults with an increased risk for buprenorphine/methadone NMU and seek to understand their motivations. Such information may assist in developing a tailored

treatment plan for patients with OUD, including providing access to medications for opioid use disorder (MOUD) and support services (e.g., counseling), ensuring proper medication dosage, and addressing barriers to receiving MOUD.

Limitations of our study include a lack of longitudinal data to assess the causality between the different sources of procurement and nonfatal/fatal overdose outcomes. Second, NAVIPPRO data are self-reported and subject to reporting bias and recall error. Third, NAVIPPRO data are not generalizable to all individuals assessed for SUD treatment and do not collect the primary reason for assessment. Fourth, 12.46 % of assessments were repeated assessments between 2014 and 2022. Future study at the individual-level, instead of assessment-level, within one year is needed. Fifth, NAVIPPRO data did not collect sources of prescription tranquilizers/sedatives among adults. However, previous research found that “family/friend” and “own prescription” were commonly reported sources, especially among older adults,^{1,12,15} which is consistent with our overall results. Sixth, we lack national drug codes to identify PPD dispensing records. Seventh, there were missing values in the source of procurement among adolescent assessments. Given the small sample size of adolescent assessments (<2 %), these missing values are unlikely to significantly impact the overall results but may impact the subgroup analyses’ results. Last, we may not capture alternative sources of procurement that preceded the past 30 days.

5. Conclusion

Our study demonstrates heterogeneity in sources of procurement of nonmedically used PPD across age groups, highlighting the need for tailored prevention strategies among different age groups. Continued efforts, such as clinician education, screening patients for NMU of PPD, patient education on proper medication storage and disposal, and removing barriers and improving timely access to medical care to ensure proper treatment of chronic medical conditions including OUD, provides an opportunity to counter the harms associated with NMU of PPD.

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Abbreviations:

IMF	illicitly manufactured fentanyl
PPD	prescription psychotherapeutic drugs
NMU	nonmedical use
SUD	substance use disorders
NAVIPPRO	National Addictions Vigilance Intervention and Prevention Program
CHAT	Comprehensive Health Assessment for Teens
ASI-MV	Addiction Severity Index-Multimedia Version

OD	opioid use disorder
MOUD	medications for opioid use disorder

References

- Schepis TS, Klare DL, Ford JA, McCabe SE. Prescription drug misuse: taking a lifespan perspective. *Subst Abuse Res Treat.* 2020;14, 1178221820909352.
- Becker W, Starrels JL. Prescription Drug Misuse: Epidemiology, Prevention, Identification, and Management. Update; 2015.
- NIDA. How Can Prescription Drug Misuse Be Prevented?; 2023, June 12. Retrieved from <https://nida.nih.gov/publications/research-reports/misuse-prescription-drugs/how-can-prescription-drug-misuse-be-prevented>. on 2023, September 7.
- Substance Abuse and Mental Health Services Administration (SAMHSA). Key Substance Use and Mental Health Indicators in the United States: Results from the 2021 National Survey on Drug Use and Health (HHS Publication No.PEP22-07-01-005, NSDUH Series H-57). Center for Behavioral Health Statistics and Quality, Substance Abuse and Mental Health Services Administration; 2022.
- NIDA. Misuse of Prescription Drugs Research Report Overview; 2023, March 6. Retrieved from <https://nida.nih.gov/publications/research-reports/misuse-prescription-drugs/overview>. on 2023, September 7.
- Tanz LJ. Drug overdose deaths among persons aged 10–19 Years—United States, July 2019–December 2021. In: *MMWR. Morbidity and Mortality Weekly Report.* 2022;71.
- O'Donnell J, Tanz LJ, Gladden RM, Davis NL, Bitting J. Trends in and characteristics of drug overdose deaths involving illicitly manufactured fentanyl—United States, 2019–2020. *MMWR (Morb Mortal Wkly Rep).* 2021;70(50):1740. [PubMed: 34914673]
- Vosburg SK, Faraone SV, Newcorn JH, et al. Prescription stimulant nonmedical use among adolescents evaluated for substance use disorder treatment (CHAT™). *J Atten Disord.* 2021;25(13):1859–1870. [PubMed: 32697138]
- Jiang X, Guy GP Jr, Dunphy C, Pickens CM, Jones CM. Characteristics of adults reporting illicitly manufactured fentanyl or heroin use or prescription opioid misuse in the United States, 2019. *Drug Alcohol Depend.* 2021;229, 109160. [PubMed: 34740067]
- Kacha-Ochana A, Jones CM, Green JL, et al. Characteristics of adults Aged 18 Years evaluated for substance use and treatment planning—United States, 2019. *MMWR (Morb Mortal Wkly Rep).* 2022;71(23):749. [PubMed: 35679167]
- Schuler MS, Dick AW, Stein BD. Heterogeneity in prescription opioid pain reliever misuse across age groups: 2015–2017 national survey on drug use and health. *J Gen Intern Med.* 2020;35:792–799. [PubMed: 31792871]
- Schepis TS, McCabe SE. Prescription tranquilizer/sedative sources for misuse in older adults. *Subst Use Misuse.* 2019;54(11):1908–1912. [PubMed: 31075994]
- Park J-Y, Wu L-T. Sources of misused prescription opioids and their association with prescription opioid use disorder in the United States: sex and age differences. *Subst Use Misuse.* 2020;55(6):928–936. [PubMed: 31975639]
- Schepis TS, McCabe SE, Teter CJ. Sources of opioid medication for misuse in older adults: results from a nationally representative survey. *Pain.* 2018;159(8):1543. [PubMed: 29624517]
- Purser GL. Trends in the source of prescription drugs for misuse between 2015 and 2019. *Subst Use Misuse.* 2023;58(7):871–880. [PubMed: 36987981]
- Schieber LZ, Guy GP Jr, Seth P, Losby JL. Variation in adult outpatient opioid prescription dispensing by age and sex—United States, 2008–2018. *MMWR (Morb Mortal Wkly Rep).* 2020;69(11):298. [PubMed: 32191686]
- Terranella A, Guy G, Strahan A, Mikosz C. Out-of-Pocket costs and payer types for buprenorphine among US youth aged 12 to 19 years. *JAMA Pediatr.* 2023;177(10):1096–1098. [PubMed: 37548969]

18. Strahan AE, Desai S, Zhang K, Guy GP. Trends in out-of-pocket costs for and characteristics of pharmacy-dispensed buprenorphine medications for opioid use disorder treatment by type of payer, 2015 to 2020. *JAMA Netw Open*. 2023;6(2), e2254590. –e2254590. [PubMed: 36763363]
19. Compton WM, Han B, Blanco C, Johnson K, Jones CM. Prevalence and correlates of prescription stimulant use, misuse, use disorders, and motivations for misuse among adults in the United States. *Am J Psychiatr*. 2018;175(8):741–755. [PubMed: 29656665]
20. Han BH, Sherman SE, Palamar JJ. Prescription opioid misuse among middle-aged and older adults in the United States, 2015–2016. *Prev Med*. 2019;121:94–98. [PubMed: 30763631]
21. Schepis TS, Simoni-Wastila L, McCabe SE. Prescription opioid and benzodiazepine misuse is associated with suicidal ideation in older adults. *Int J Geriatr Psychiatr*. 2019;34(1):122–129.
22. Dowell D, Ragan KR, Jones CM, Baldwin GT, Chou R. CDC clinical practice guideline for prescribing opioids for pain—United States, 2022. *MMWR Recomm Rep (Morb Mortal Wkly Rep)*. 2022;71(3):1–95.
23. Spencer MR, Miniño AM, Warner M. Drug overdose deaths in the United States, 2001–2021. *NCHS data brief*, 457, pp.1–8..
24. Kramarow EA, Tejada-Vera B. Drug overdose deaths in adults aged 65 and over: United States, 2000-2020. *NCHS data brief*. 2022;(455):1–7.
25. Substance Abuse and Mental Health Services Administration. Treating Substance Use Disorder in Older Adults; 2020. https://store.samhsa.gov/sites/default/files/SAMHSA_Digital_Download/PEP20-02-01-011%20PDF%20508c.pdf.
26. Hulme S, Bright D, Nielsen S. The source and diversion of pharmaceutical drugs for non-medical use: a systematic review and meta-analysis. *Drug Alcohol Depend*. 2018;186:242–256. [PubMed: 29626777]
27. Smith KE, Tillson MD, Staton M, Winston EM. Characterization of diverted buprenorphine use among adults entering corrections-based drug treatment in Kentucky. *Drug Alcohol Depend*. 2020;208, 107837. [PubMed: 31951906]
28. Rubel SK, Eisenstat M, Wolff J, Calevski M, Mital S. Scope of, motivations for, and outcomes associated with buprenorphine diversion in the United States: a scoping review. *Subst Use Misuse*. 2023;58(5):685–697. [PubMed: 36803159]
29. Johnson B, Richert T. Non-prescribed use of methadone and buprenorphine prior to opioid substitution treatment: lifetime prevalence, motives, and drug sources among people with opioid dependence in five Swedish cities. *Harm Reduct J*. 2019;16(1):1–15. [PubMed: 30611251]
30. Han B, Jones CM, Einstein EB, Compton WM. Trends in and characteristics of buprenorphine misuse among adults in the US. *JAMA Netw Open*. 2021;4(10), e2129409. –e2129409. [PubMed: 34652446]

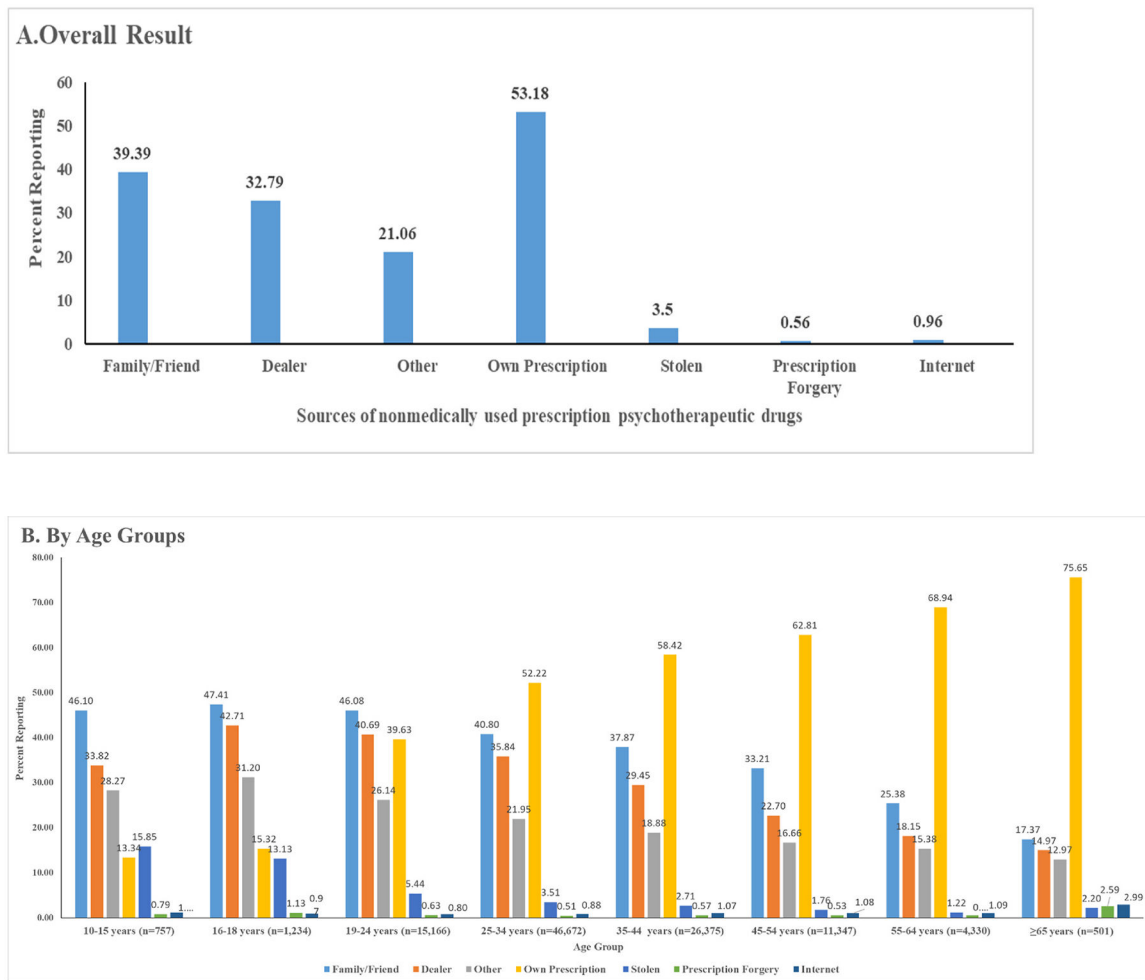


Fig. 1. Percentage of sources of nonmedically used prescription psychotherapeutic drugs reported among CHAT and ASI-MV assessments that indicated any past 30-day nonmedical use of prescription psychotherapeutic drugs^a overall and by age groups, 2014–2022 (N = 106,382). Data Source: The National Addictions Vigilance Intervention and Prevention Program (NAVIPPRO) Comprehensive Health Assessment for Teens (CHAT) and NAVIPPRO Addiction Severity Index–Multimedia Version (ASI-MV) datasets January 2014–September 2022. The unit of analysis was each assessment. a. Prescription drug product included prescription opioids (including buprenorphine and methadone), prescription tranquilizers/sedatives, and prescription stimulants. In the CHAT dataset, among 1407 assessments reporting past 30-day nonmedical use of prescription opioids (including buprenorphine and methadone), 16.28 % did not report the source of procurement. Among 754 assessment reporting past 30-day nonmedical use of prescription stimulants, 24.80 % did not report the source of procurement. Among 763 assessment reporting past 30-day nonmedical use of prescription tranquilizers/sedatives, 0.92 % did not report the source of procurement. In the ASI-MV dataset, among 101,308 assessments reporting past 30-day nonmedical use of prescription opioids (including buprenorphine and methadone), 1.15 % did not report the source of procurement. Among 9069 assessments reporting past 30-day nonmedical use of

prescription stimulants, 2.34 % did not report the source of procurement. In the ASI-MV dataset, source of past 30-day nonmedical use of prescription tranquilizer/sedative was not collected.

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Percentage of sources of nonmedically used prescription psychotherapeutic drugs reported among CHAT and ASI-MV assessments that indicated any past 30-day nonmedical use of prescription psychotherapeutic drugs^a by other demographic characteristics, 2014–2022.

Table 1

	Family/Friend	Dealer	Other ^b	Own Prescription	Stolen	Prescription Forgery	Internet
Sex^c							
Male (n = 55,983)	36.20	34.76	21.79	49.68	3.65	0.62	1.17
Female (n = 50,365)	42.94	30.61	20.25	57.06	3.32	0.50	0.73
Race and ethnicity^d							
Non-Hispanic White (n = 82,721)	40.19	34.49	20.88	53.48	3.58	0.50	0.87
Non-Hispanic Black (n = 9253)	33.69	27.04	20.04	49.41	2.44	0.79	1.38
Hispanic/Latino (n = 7746)	36.83	25.95	22.31	53.78	3.54	0.81	1.19
Other ^e (n = 6659)	40.44	27.65	23.28	53.90	3.92	0.83	1.28
United States Census Bureau regions							
Northeast (n = 5741)	33.18	33.36	20.95	57.79	3.01	0.23	0.47
Midwest (n = 22,358)	43.97	29.74	22.35	50.53	3.96	0.48	0.84
South (n = 67,302)	38.81	35.77	20.80	52.63	3.39	0.63	1.02
West (n = 10,981)	36.87	20.47	20.11	59.53	3.49	0.54	1.11
Assessment year							
2014 (n = 15,427)	44.37	34.52	23.17	47.81	3.68	0.48	0.59
2015 (n = 16,963)	44.45	36.30	22.09	50.07	3.98	0.52	0.84
2016 (n = 16,785)	44.40	36.23	22.51	51.25	4.11	0.63	1.05
2017 (n = 14,885)	40.77	34.09	22.59	53.43	3.69	0.45	0.99
2018 (n = 13,124)	36.55	32.31	19.93	56.85	3.09	0.54	0.93
2019 (n = 9498)	36.14	30.64	19.90	52.88	3.57	0.71	1.03
2020 (n = 7256)	33.31	29.15	18.69	55.46	2.77	0.76	1.21
2021 (n = 7383)	27.44	24.62	16.39	61.47	2.38	0.51	1.16
2022 (n = 5061)	26.24	23.00	17.31	61.27	2.43	0.67	1.40

^aPrescription drug product included prescription opioids (including buprenorphine and methadone), prescription tranquilizers/sedatives, and prescription stimulants. In the CHAT dataset, among 1407 assessments reporting past 30-day nonmedical use of prescription opioids (including buprenorphine and methadone), 16.28 % did not report the source of procurement. Among 754 assessment reporting past 30-day nonmedical use of prescription stimulants, 24.80 % did not report the source of procurement. Among 763 assessment reporting past 30-day nonmedical use of prescription tranquilizers/sedatives, 0.92 % did not report the source of procurement. In the ASI-MV dataset, among 101,308 assessments reporting past 30-day nonmedical use of prescription opioids (including buprenorphine and

methadone), 1.15 % did not report the source of procurement. Among 9069 assessments reporting past 30-day nonmedical use of prescription stimulants, 2.34 % did not report the source of procurement. In the ASL-MV dataset, source of past 30-day nonmedical use of prescription tranquilizer/sedative was not collected.

^b Other includes “traded for the pharmaceutical drugs”, and other source of procurement.

^c There were 34 missing for sex variable.

^d There were 3 missing for race and ethnicity variable.

^e Other includes those who selected Asian, American Indian/Alaskan Native, Pacific Islander/Native Hawaiian, Middle Eastern, as well as those who selected multiple races.

Data Source: The National Addictions Vigilance Intervention and Prevention Program (NAVIPP) Comprehensive Health Assessment for Teens (CHAT) and NAVIPPRO Addiction Severity Index-Multimedia Version (ASL-MV) datasets January 2014–September 2022. The unit of analysis was each assessment.

Percentage of sources of past 30-day nonmedically used prescription psychotherapeutic drugs reported by drug class, 2014–2022.^a.

Table 2

	Family/Friend	Dealer	Other	Own Prescription	Stolen	Prescription Forgery	Internet
Prescription opioid nonmedical use^b in the past 30 days							
Overall (n = 61,963)	41.96	38.40	21.04	37.30	4.50	0.71	0.98
10-18 (n = 1391)	42.06	38.39	27.25	8.41	14.02	1.01	0.86
19 (n = 60,572)	41.96	38.40	20.90	37.97	4.28	0.70	0.99
Prescription buprenorphine/methadone nonmedical use^c in the past 30 days							
Overall (n=65,162)	32.86	27.64	17.55	51.74	1.55	0.26	0.65
10-18 (n = 158)	31.65	42.41	27.22	7.59	6.33	0	1.27
19 (n = 65,004)	32.86	27.60	17.53	51.85	1.54	0.26	0.65
Prescription stimulant nonmedical use in the past 30 days^d							
Overall (n=9823)	48.76	26.85	19.23	25.90	3.74	0.62	0.94
10-18 (n = 754)	38.46	24.40	19.10	16.45	7.96	0.80	0.66
19 (n = 9069)	49.62	27.05	19.24	26.68	3.39	0.61	0.96
Prescription tranquilizer/sedative nonmedical use in the past 30 days^e							
10-18 (n = 763)	45.87	43.77	28.44	9.70	11.53	0.13	0.52
19 (n = NA)	NA	NA	NA	NA	NA	NA	NA

^a An assessment could contribute to different groups. For example, if one assessment reports nonmedical use of methadone and oxycodone, it will be counted in the prescription opioid nonmedical use group excluding methadone/buprenorphine group, and in the methadone/buprenorphine nonmedical use group.

^b Does not include nonmedical use of buprenorphine/methadone in the ASI-MV dataset and CHAT dataset. In the ASI-MV dataset, among 60,572 assessments, 1.92 % did not report the source of prescription opioid (excluding buprenorphine and methadone) procurement. In the CHAT dataset, among 1391 assessments, 16.53 % did not report the source of prescription opioid (excluding buprenorphine and methadone) procurement.

^c In the ASI-MV dataset, among 65,004 assessments, 0.51 % did not report the source of prescription buprenorphine/methadone procurement. In the CHAT dataset, among 158 assessments, 0.63 % did not report the source of prescription buprenorphine/methadone procurement.

^d In the ASI-MV datasets, among the 9069 assessments, 2.34 % did not report the source of prescription stimulant procurement. In the CHAT dataset, among 754 assessments, 24.80 % did not report the source of prescription stimulant procurement.

^e Only in the CHAT dataset, prescription tranquilizer/sedative nonmedical use was collected. In the ASI-MV dataset, source of prescription tranquilizer/sedative nonmedical use was not collected. Among 763 assessments, 0.92 % did not report the source of prescription tranquilizer/sedative procurement.

Data Source: The National Addictions Vigilance Intervention and Prevention Program (NAVIPPRO) Comprehensive Health Assessment for Teens (CHAT) and NAVIPPRO Addiction Severity Index-Multimedia Version (ASI-MV) datasets January 2014–September 2022. The unit of analysis was each assessment.