Nurse Substance Use: findings from the Nurse Worklife and Wellness Study 2020-21

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Acknowledgement

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NWWS Study Website:

https://www.nursing.umaryland.edu/research/funded-research/nurse-worklife-and-wellness/

Background

Substance Use (SU) in Nurses

- **Our first nationwide survey in 1994, Nurses Worklife and Health Study (Trinkoff and Storr, 1997, 1998)**

  - Overall, SU rates less than or equal to the general population
  - Higher rates of prescription-type SU in nurses.
    → related to greater job demands and adverse work schedules, job-related access (availability, frequency of administration, and less stringent wastage policies)

Over the last 25 years…

Nurses overall are more highly educated than ever
Nursing roles have expanded commensurately (IOM, 2011)

Higher nursing workloads and demands:
- difficult schedules and responsibilities
- lower staffing ratios for patients with increased acuity.

Changes over the last 25 years…

Substance Use: treatable behavioral problem, amenable to evidence-based intervention (SAMHSA, 2015). Disease approach, non-blaming

Opportunities for diversion remain a concern for RN SU
- frequently handle controlled substances
 (Meisenberg, Grover, Campbell, & Korpon, 2018)

- More nurses have prescribing privileges (Yang et al., 2018)

Need for workplace nurse wellness offerings and a large-scale study to examine these relationships, some ongoing
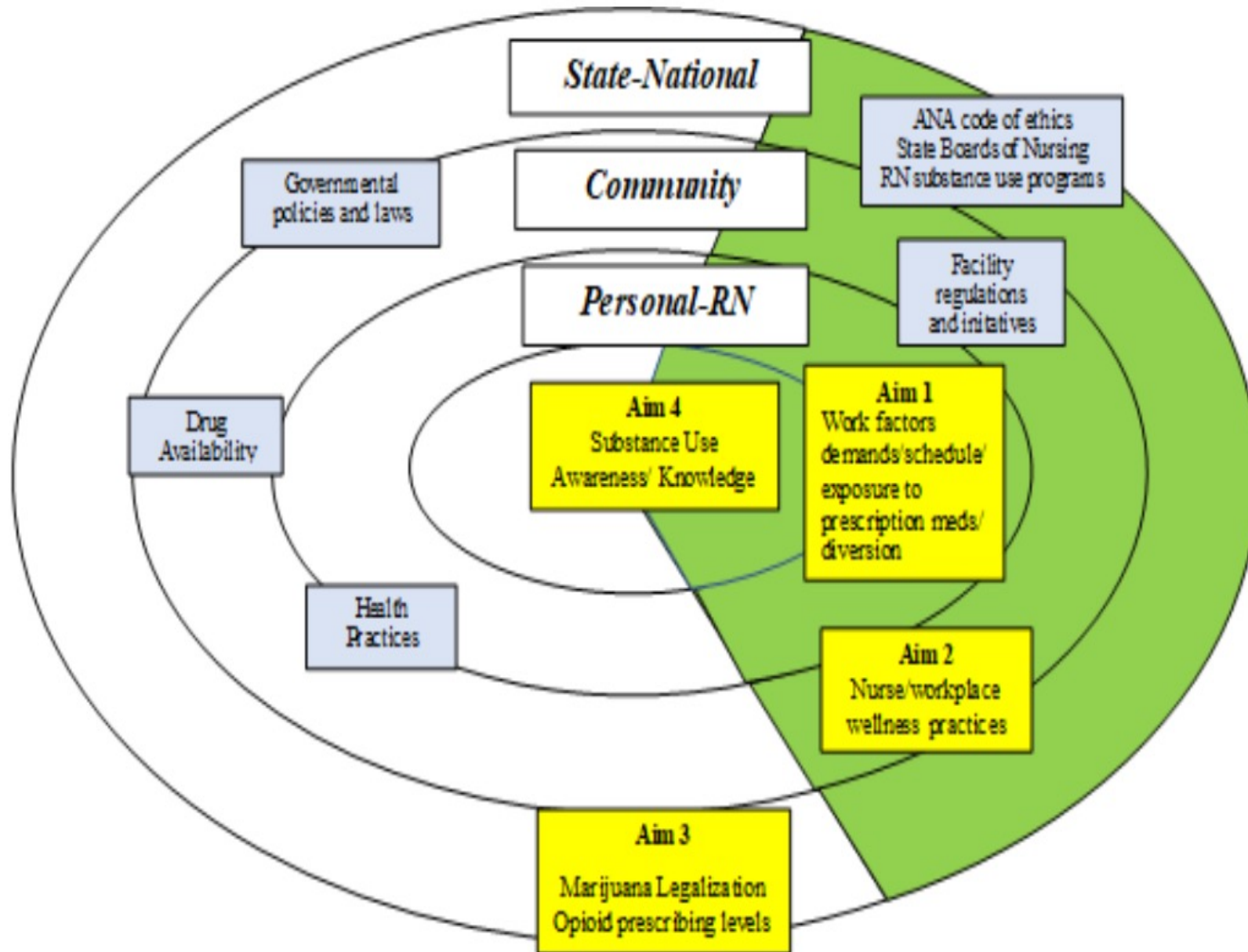
Aims

Study Aims, Goal: Factors related to Nurse Substance Use

Goal: update SU in nurses

Aims 1 and 4:

- Estimate SU and SUDs prevalence in RNs;
- Relationships between SU and work factors
- Evaluate nurses' knowledge of:
  SU and symptoms in colleagues, workplace diversion, and how to address these issues.

Conceptual framework

Methods

Methods

Design

- A cross-sectional study
- A mixed-modes survey (online and mailed paper questionnaires)

Data collection

- From November 2020 to March 2021

IRB approval

- University of Maryland, Baltimore

Methods: Sampling

- **Balanced stratified sampling** to select states representative of the US RN population (Trinkoff & Storr, 1997). Divided into 4 strata by RN population size.

- Nine states selected among the 50 states and DC using **optimal allocation.** (Levy & Lemeshow)

- **Actively licensed RNs** (including APRNs) then selected using random sampling

- Targeted 3,973 RNs (excludes bad addresses/ emails).

Methods: Measures

Substances studied:

- **Illicit drugs** (e.g., marijuana, cocaine, methamphetamine, hallucinogens, heroin);

- **Prescription-type (Rx-type) medications** (e.g., benzodiazepines, opiates, non-narcotic pain relievers, stimulants);

- **Alcohol** (3+ drinks per occasion);

- **Energy drinks** or OTC stimulants (e.g., Red Bull, 5-Hour Energy);

- **Caffeinated beverages** (>4 cups/day used often/very often);

- **Nicotine** products (e.g., tobacco, e-cigarettes, patches);

- **CBD**

Trinkoff, A. M., Selby, V. L., Han, K., Baek, H., Steele, J., Edwin, H. S., ... & Storr, C. L. (2022). The prevalence of substance use and substance use problems in registered nurses: estimates from the Nurse Worklife and Wellness Study. *Journal of Nursing Regulation*, *12*(4), 35-46.

Methods: Measures, continued

Substance Use (SU) all substances measured

- Past year use

Prescription-type drug misuse (SAMHSA, 2016):
use without a prescription, in greater amounts, more often, or in any other way not directed

Substance Use Problems/Disorders (SUP/ SUD)

- Past year use PLUS: problems due to alcohol &/or drug use

- Past-year users answered 10 problem screening items (e.g., cravings, need to cut down)

- SUP:1 or 2 yes; Potential SUD ≥ 3 yes: (DAST, Skinner, 1982; APA, 2013)

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Results

Overview of study participants

N=1215 responses (30.6%), 1170 used for analysis

91.0% female, 84.5% white

51.2 years old (SD=14.1; range=21-85)

24.3 yrs experience (SD=15.1; range=1-66).

Half worked in hospitals

40% working in urban areas

69% staff or charge nurses

71% working full-time

SU Prevalence in RNs, past year, N=1170

✓ Past-year users: 442 (37.8%)

	Percent (SE)
Illicit Drug Use	5.7 (0.7)
Rx-type Drug Misuse	9.9 (0.9)
Alcohol (3+ drinks/occasion)	30.9 (1.4)
Nicotine	8.8 (0.8)
Energy drinks	12.1 (10.0)
Caffeine (>4/day often/very often)	21.7 (1.2)
CBD	11.1 (0.9)
Substance Use Problem	11.4 (0.9)
Substance Use Disorder	6.6 (0.7)

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SU Problem/ SU Disorder Estimates in RNs

TABLE 5

Substance Use Problem/Substance Use Disorder Estimates by Substance Type Among Past Year Users, Nurse Worklife and Wellness Study (n = 442), 2020–2021

Risk Level[a]	Drug Use Only	Alcohol Use Only	Drug and Alcohol Use	Total Past Year Use
	n = 88	n = 273	n = 81	n = 442
	% (SE)	% (SE)	% (SE)	% (SE)
No risk (0)	70.1 (4.9)	64.9 (2.9)	34.6 (5.3)	60.4 (2.3)
Low (1–2)	21.8 (4.4)	22.1 (2.5)	35.8 (5.3)	24.6 (2.0)
Moderate (3–5)	4.6 (2.2)	12.2 (2.0)	24.7 (4.8)	13.0 (1.6)
Substantial (6–8)	2.3 (1.6)	0.7 (0.5)	4.9 (2.4)	1.8 (0.6)
Severe (9–10)	1.1 (1.1)	0.0	0.0	0.2 (0.2)

Note. [a]A score of 1 or 2 indicates a substance use problem. A score of 3+ indicates a substance use disorder.

Sources: American Psychiatric Association, 2013; Skinner, 1982.

more info

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SU Problem/Disorder Screening Results in RNs

TABLE 4

Proportion of Respondents Using Alcohol or Drugs[a] Who Reported Each Problem Use Symptom in Past Year, Nurse Worklife and Wellness Study, 2020–2021

Answered yes to "Have you experienced the following in the past year:"	Past year user (n = 442)	
	n	**%**
a need to cut back or decrease use?	131	29.9
feeling bad or guilty about use?	120	27.5
smaller effects with the same amount?	51	11.7
use interfered with your work or other important activities?	12	2.7
a craving, that you had to have it?	51	11.6
feeling sick when you stopped?	10	2.3
being under the influence at work?	3	0.7
blackouts or flashbacks from use?	23	5.3
health problems from use (e.g., memory, seizures, bleeding)?	11	2.5
used frequently (weekly/daily) multiple (>1) substances?	20	4.5

Operational Definitions:
- ✓ 1 or 2 yes: SU Problem
- ✓ ≥ 3 yes potential SU Disorder

SU Status based on the screening items	
	% (SE)
SU Problem	11.4 (0.9)
SU Disorder	6.6 (0.7)

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Awareness of Workplace Signs, Actions, and Interventions for Nurses with SUD

Potential Workplace *Signs of a Substance-Impaired Colleague*	Agree (%)
Incomplete documentation	47.6
Patients complain of **inadequate pain relief**	72.5
Frequent medication errors	**88.0**
Difficulty with complex assignments	64.6
Often volunteers to administer medications	76.4
Frequent medication wasting	**82.8**
Many absences or long breaks	**83.1**

Actions and Feelings if They Suspect SUD in a Colleague	Agree (%)
I worry they could be **punished or lose their job**	58.5
I am **afraid to get involved**	21.4
I am **unsure what to do**	20.0
I would **ignore it**	2.0
I would **try to help them**	**82.4**
I would **report this to my supervisor**	**93.0**
I would **report it to the state board**	44.4

more info

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Awareness of Workplace Signs, Actions, and Interventions for Nurses with SUD

Opinions Regarding Nurses With SUD	Agree (%)
Their problems **reflect stressful situations** on the job	57.7
During treatment, **most can continue to work** as nurses	31.9
If **supervisors suspect impairment, they should help** that nurse get assistance	**98.3**
In **most cases**, safety requires their **license be revoked**	40.7
Impairment **could happen to almost any nurse**	72.3
It is unusual for nurses to be **productive and trustworthy after treatment**	12.8
Nurses should **notify a supervisor** if a co-worker may be impaired	**98.8**
Most nurses can be helped in support groups of impaired RNs	**85.6**
State boards should inform nurses suspected of impairment **of their rights** in disciplinary procedures	**97.8**
I can identify impaired nurses at work by appearance or behavior	47.7

more info

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Prescription Drug Misuse and Work-Related Exposure in Nurses

Prescription Drug Misuse: benzodiazepines, other sleep medications, opioids, and nonnarcotic pain medications (e.g, gabapentin)

Workplace Exposure:
1) Perceived availability
2) Frequency of administration
3) Perceived knowledge of substance
4) How well are workplace controls/handling practices implemented in your workplace?" (documenting medication, locked cabinet use, witnessing wastage)

more info

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Prescription Drug Misuse and Work-Related Exposure in Nurses

Table 2. *Odds Ratios and Prevalence of Workplace Exposures in Relation to Past Year Prescription Drug Misuse in RNs, Nurse Worklife and Wellness Study, 2020-2021 (n = 1170)*

		n	Prescription Type Misuse,[a] %	OR[b] (95% CI)
Perceived availability	Low	518	8.1	1.00
	Moderate	458	8.8	1.10 (0.70-1.74)
	High	99	14.1	1.87 (0.98-3.58)
Frequency of administration	Never	328	8.1	1.00
	Sometimes	661	9.1	1.13 (0.70-1.84)
	Often	98	10.4	1.32 (0.61-2.85)
Perceived knowledge	Low	40	2.6	1.00
	Moderate	680	6.7	2.74 (0.37-20.39)
	High	372	13.7	6.05 (0.81-45.06)
Workplace controls	Adequate	1065	8.7	1.00
	Low	36	16.7	2.10 (0.85-5.18)

Exposures include perceived availability: it would be very easy to obtain for personal use, low = strongly disagree all 4 medications, moderate = some agrees, high = strongly agree for 1+ medications. Frequency of administration: never = all 4 medications, sometimes = for +1 medications, often = for all 4 medications. Perceived knowledge of effects and proper dosing: low = none for all 4 medications, moderate = for <4 medications, high = for all 4 medications. Workplace controls: low = not well for documentation, locked cabinets, or witnessed wastage; adequate = all others.

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Prescription Drug Misuse and Work-Related Exposure in Nurses

- Exposure index created with the 4 factors into regression models
  -> Higher exposure index (cont/cat) related to more misuse

Table 3. Adjusted Odds Ratios (ORs) of the Exposure Index (Continuous and Categorical) in Relation to Past Year Prescription Drug Misuse in RNs, Nurse Worklife and Wellness Study, 2020-2021 (n = 1170)

			Model 1		Model 2	
			aOR[a]	95% CI	aOR	95% CI
Exposure index	(Continuous)		1.38	1.16-1.64		
Exposure index	(Categorical)	Low			1.00[b]	
		Medium			1.23	0.74-2.02
		High			2.88	1.44-5.77
Age			1.03	1.01-1.04	1.02	1.01-1.04
Gender		Female	1.00		1.00	
		Male	1.02	0.49-2.14	1.08	0.51-2.26
Workplace		All others	1.00		1.00	
		Nursing home/home health	1.85	1.01-3.39	2.02	1.10-3.72

[a]aORs calculated from multiple logistic regression (outcome: prescription type drug misuse).

[b]1.00 = reference group; 95% CI that does not contain 1.00 indicates statistical significance.

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5. Discussion

Summary of the study findings

- Nurse prescription-type misuse still exceeds that of the general U.S. population

- Nurse SU Disorder rates (6.6%) similar to the US population (7.4%) (SAMHSA, 2020)

- Workplace exposure (availability, frequent administration, knowledge, workplace controls) was associated with prescription drug misuse

Summary of the study findings

- Nurses not much confidence in their ability to identify colleagues with possible SUD

- Favorable opinions of a nurse's ability to succeed in treatment and re-enter practice

- Supportive attitudes toward impaired nurses.

Recommendations

- Clear guidelines, educational initiatives: what to do
- Culture of safety, recognition and treatment, not blaming
- Awareness of exposure risks of Rx-type misuse

- **AJN paper:**

FEATURE ARTICLES

CE: Nurses Are More Exhausted Than Ever:
What Should We Do About It?

Full-text link

Thank you very much!

Comments or Questions?