SUBSTANCE USE DISORDERS IN NURSES: *EXPLORING PSYCHOLOGICAL TRAUMA AS A RISK FACTOR*

Presented at the National Council of State Boards of Nursing: Scientific Symposium, March 22, 2021

By Karen J. Foli, PhD, RN, FAAN, Principal Investigator Team: Lingsong Zhang, PhD, Blake Reddick, BSN, DNP

PURDUE UNIVERSITY | School of Nursing

Participant Objectives

At the end of the session, the participant will be able to:

- Delineate emerging patterns in the literature surrounding substance use (SU) in nurses;

- Summarize the results of the research project, including both quantitative and qualitative findings of substance use risk in registered nurses. This study was sponsored by the National Council of State Boards of Nursing: Center for Regulatory Excellence (Project: R101011);

- Describe conclusions and regulatory implications of these findings;

- Argue for the need of future investigations in registered nurses who struggle with SU.

PURDUE UNIVERSITY | School of Nursing

Substance Use Literature: Two Discourses

Literature surrounding nurses' alcohol/substance use: Two threads

- **Foundational literature** that includes prevalence/ measurement, regulatory implications, risk factors, use of employee assistance.
  Examples: Darbro, 2011; Fitzpatrick, et al., 2005; Foli et al., in press, 2019; Monroe & Kenaga, 2010; Monroe et al., 2011; Russell, 2017; Trinkoff et al., 1991; Trinkoff & Storr, 1998; Trinkoff et al., 1999

- **Emerging literature** that takes a critical view of nurses' experiences, ethics, quality of assistance, and discourses surrounding nurses in SU treatment.
  Examples: Foli et al., 2020; Kunyk, 2015; Kunyk et al., 2016: Mumba, 2018; Ross 2018a; 2018b; 2019

PURDUE UNIVERSITY | School of Nursing

3/16/21 | **3**

Background: Substance Use in RNs

- RNs = General Population in prevalence 6% to 8%
  (Kunyk, 2015; Trinkoff et al. 1991; Trinkoff & Storr, 1998; Trinkoff et al., 1999)

- Risk Factors

- Specialties with higher rates: Oncology, home care, ICU, anesthesiology

Access

Stress

Self-medicating

Education

Attitudes

Shift Schedules
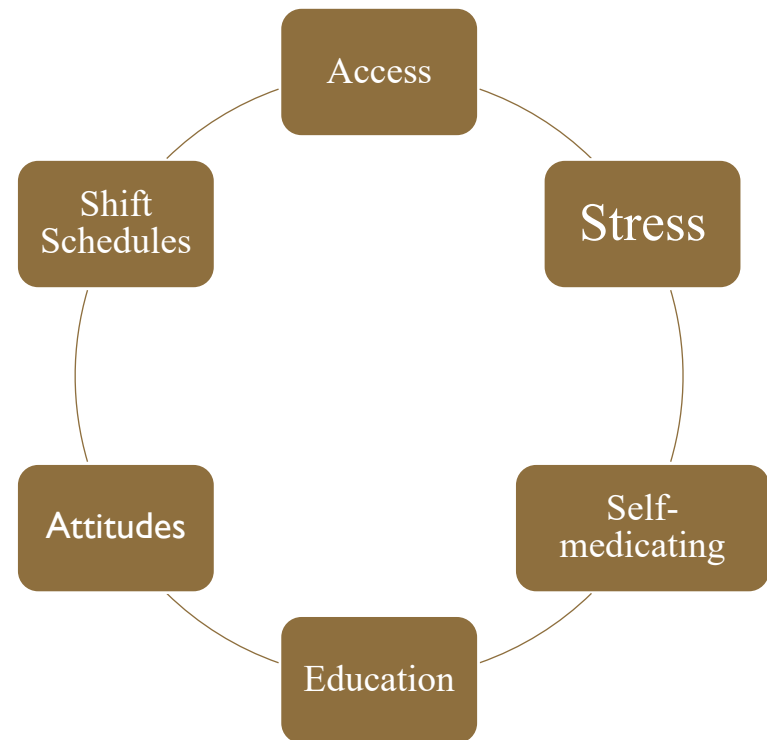
(Darbro & Malliarakis, 2012; NCSBN, 2011)

Substance Use Disorder in Nurses:
Exploring Psychological Trauma as a Risk Factor

Phase 1: Methods

- Qualitative analysis of publicly available court documents

- Records of actions by the Indiana State Board of Nursing for individuals using substances

Phase 2: Methods

- Qualitative and quantitative analysis of data collected via an online survey
  - Stratified random sampling by year of licensure (1-10 years; 11-20 years; 21-30 years and >30 years)
  - Postal mailings to 4,000 of the 160,000 Indiana RN database
  - Guided to webpage with link to resources and online survey link
  - Nearly 1,500 respondents

Research Question:

What are the safety, regulatory, and professional issues that influence nurses' substance use who present before the Indiana State Board of Nursing (ISBN), including the temporal patterns reflected in court documents?

Phase 1: License Litigation

BEFORE THE INDIANA STATE
BOARD OF NURSING
CAUSE NUMBER: 2017 NB 0015

IN THE MATTER OF THE LICENSE OF:)

███████████, R.N.,)

LICENSE NO: ███████)

FILED

FEB 2 1 2017

Indiana Professional
Licensing Agency

SUMMARY SUSPENSION ORDER

The Indiana State Board of Nursing ("Board") at its regularly scheduled meeting on

January 19, 2017 in the Auditorium of the Indiana Government Center South, 302 West

Washington Street, Indianapolis, Indiana 46204, pursuant to the authority of Ind. Code Ch. 4-

21.5-4-1 and Ind. Code § 25-1-9-10, by a vote of 6-0-0, **SUMMARILY SUSPENDS** the license

held by ████████ R.N., ("Respondent") for ninety (90) days, as the Board finds that an

emergency exists and that Respondent represents a clear and immediate danger to the public

health and safety if allowed to practice nursing in the State of Indiana.

The State of Indiana ("Petitioner") was represented by Amanda R. Elizondo, Deputy

Attorney General. Respondent appeared in person.

PURDUE UNIVERSITY | School of Nursing

Phase 1: Sample

Samples Drawn for Content Analysis

	RNs	Documents
2014	24	137
Sept – Dec 2017	27	99
Total	51	236*

*Each document : 7-10 pages

Phase 1: Document Themes

Theme 1: Critical Juncture of Actors in the Process
Theme 2: Emerging Groups Who Appear Before the Board
Theme 3: Individual Contexts vs. Standardized Discipline
Theme 4: Deliberate Diversion, Deceit, and Deception
Theme 5: Significant Threat to Public Safety/Quality Care

PURDUE UNIVERSITY | School of Nursing

Phase 1: Document Themes

SL, RN, who received her *nursing license in 1978.* She first appeared before the ISBN *in 1993* related to polysubstance abuse. Her license was placed on probation for a three-year period, which was withdrawn 1996 upon completion of ISBN and ISNAP-mandated remediation, including maintaining an ISNAP RMA, urine drug screening, supervisory reports, and weekly Narcotics Anonymous (NA) meetings.

In 2017, 21 years later, her license was placed under emergency suspension when the ISBN discovered SL had had multiple relapses and re-enrollments with ISNAP in *2001, 2005, and 2008.*

Additionally, in 2016 SL was terminated from a long-term care facility when her urine drug screen was positive for opiates, benzodiazepines, and barbiturates. SL failed to disclose this information to a new employer, where she gained employment four months later. *In 2017,* she was terminated from this facility when she tested positive for methamphetamines on a urine drug screen. The ISBN was then informed because SL failed to contact ISNAP regarding the new allegations from her two employers.

Phase 1: Study Conclusions

Court documents that describe legal proceedings of nurses appearing before the BON for issues of substance use **reflect a complex process,** including the use of alternative to discipline programs.

There is a **critical intersection or juncture wherein actors in this process compete and cooperate for distinct goals:** recovery with accountability, reestablishing/defending livelihoods, and protecting public safety.

 The findings of the current study support previous evidence that indicates **opioids and alcohol as leading substances used by RNs** (Rojas et al., 2013).

Phase 2: Study 1

Open Ended Responses to this Question r/t Substance Use: n = 373 (of 1,478) nurses responded

"Please add any additional comments related to substance or alcohol use that you have experienced or witnessed in registered nurses."

PURDUE UNIVERSITY. | School of Nursing

3/16/21 | **12**

Qualitative Themes: "I Heard About a Nurse Who.."

Themes
Differing social network proximity to substance use
Individual process: From vulnerability to outcomes
Bedside, system, and organizational spaces and effects
No exposure to substance use in nursing

"I heard about a nurse who…"

Conclusions:

1. Approximately one quarter of the comments forwarded were direct reports of substance use.

2. Nurses reported peers' struggles with SU, including observing nurses working in patient care while impaired and the use of substances to cope with work and personal stressors.

3. Individual factors and system-related failures appear to be contributors to substance use in nurses.

PURDUE UNIVERSITY | School of Nursing

Research Questions and Rationale

Phase 2: Study 2

The **theoretical rationale** for our study design

- Based on the literature that indicates trauma is a strong predictor of substance use and SU is also viewed in terms of dual diagnoses, such as depression and anxiety.

Research Questions:

- What are the screening risk rates of tobacco, alcohol, and other substance use in registered nurses residing in Indiana?

- What are predictive variables of such substance use?

School of Nursing

Phase 2: Study 2 (N=1,478)

Sample Characteristics: Ninety-two percent of the nurses were female (92%) with a mean age of 44 years.

The majority were married, Caucasian, and not of Hispanic ethnicity.

On average, the RNs had been licensed for approximately 18 years.

Measures

Individual and Psychological Variables

- Demographics
- Organizational Support
- Depression
- Anxiety
- Resiliency
- Optimism
- Religiosity

Trauma-Related Variables

- Adverse Childhood Experiences (ACEs)
- Life Events
- Lateral violence
- Second-Victim Items

PURDUE UNIVERSITY® | School of Nursing

Measures

Outcome Variable: Substance Use Risk

- World Health Organization (WHO) Alcohol, Smoking and Substance Involvement Screening Test (WHO ASSIST Working Group, 2002)

- For each substance, tobacco, alcohol, and other substances, scores were divided into no lifetime use; low risk score; low-moderate risk score; high-moderate risk score and high-risk score

ASSIST Tool (V3): Scoring

THE TYPE OF INTERVENTION IS DETERMINED BY THE PATIENT'S SPECIFIC SUBSTANCE INVOLVEMENT SCORE

	Record specific substance score	no intervention	receive brief intervention	more intensive treatment *
a. tobacco		0 - 3	4 - 26	27+
b. alcohol		0 - 10	11 - 26	27+
c. cannabis		0 - 3	4 - 26	27+
d. cocaine		0 - 3	4 - 26	27+
e. amphetamine		0 - 3	4 - 26	27+
f. inhalants		0 - 3	4 - 26	27+
g. sedatives		0 - 3	4 - 26	27+
h. hallucinogens		0 - 3	4 - 26	27+
i. opioids		0 - 3	4 - 26	27+
j. other drugs		0 - 3	4 - 26	27+

Results: Overall Risk in RNS

ASSIST Scores			Other Substances[d]	
Tobacco[b]			**Other Substances[d]**	
0	1214 (82.1%)		0	1213 (82.1%)
1 – low risk	81 (5.5%)		1 – low risk	110 (7.4%)
2 – low/mod risk	110 (7.4%)		2 – low/mod risk	138 (9.3%)
3 – high/mod	62 (4.2%)		3 – high/mod	16 (1.1%)
4 – high risk	11 (0.7%)		4 – high risk	1 (0.1%)
Alcohol[c]				
0	300 (20.3%)		**Injection**	
1 – low risk	995 (67.3%)		No, never	1461 (98.8%)
2 – low/mod risk	144 (9.7%)		Yes, in past 3 months	2 (0.1%)
3 – high/mod	28 (1.9%)		Yes, but not past 3 mos	6 (0.4%)
4 – high risk	11 (0.7%)			

[b] Tobacco: 0 = no lifetime use; 1 = low risk score (1-3); 2 = low-moderate risk score (4-15); 3 = high-moderate risk score (16-26); 4 = high risk score (>27) [c] Alcohol: 0 = no lifetime use; 1 = low risk score (1-10); 2 = low-moderate risk score (11-18); 3 = high-moderate risk score (19-26); 4 = high risk score (>27); [d] Other Substances: 0 = no lifetime use; 1 = low risk score (1-3); 2 = low-moderate risk score (4-15); 3 = high-moderate risk score (16-26); 4 = high risk score (>27). Note: this represents the score for each individual's highest scoring drug on the ASSIST (other than tobacco or alcohol).

Results: Tobacco Use in RNs

Tobacco $R^2 = 0.08$		
Variable	DF	P Value
Individual & Psychological		
Nursing Education	7	0.002
ACE Score	1	0.001
PHQ-9 Score (Depression)	1	0.000
GAD-7 Level of Difficulty	1	0.001
Workplace & History of Substance Use		
Lateral Violence Question 38[1]	1	0.000
Past ISNAP	2	0.000

[1]Q38= "How often do you find yourself losing your patience and directing behaviors that can be interpreted as lateral violence toward coworkers?"

PURDUE UNIVERSITY | School of Nursing

Results: Alcohol Use in RNs

Alcohol $R^2 = 0.09$		
Variable	DF	P Value
Individual & Psychological		
Religiosity	1	0.000
PHQ9 Score (Depression)	1	0.001
GAD-7 Score (Anxiety)	1	0.030
GAD-7 Level of Difficulty	1	0.001
Resilience	1	0.044
Life Events	1	0.000
Workplace & Current Use		
Current Nursing Position	9	0.000
Lateral Violence Question 39[2]	1	0.000
Current ISAP	2	0.020

[2]Q39 = "How often have you crossed the line and used behaviors that would be interpreted as lateral violence toward a coworker?"

PURDUE UNIVERSITY | School of Nursing

Results: Other Substance Use in RNs

Other Substances $R^2 = 0.10$		
Variable	DF	P Value
Individual & Psychological		
Religiosity	1	0.000
ACE Score	1	0.000
Life Events	1	0.000
PHQ-9 Score (Depression)	1	0.000
GAD-7 Score (Anxiety)	1	0.022
Workplace		
Perceived Organizational Support	1	0.000
Lateral Violence Quest. 37[3]	1	0.049

[3]Q37 = "How often do you see coworkers losing their patience and directing behaviors that can be interpreted as lateral violence toward coworkers?"

PURDUE UNIVERSITY | School of Nursing

Results

Each model contained distinct predictor variables; however, variables occurring in all three models were:

- depression
- anxiety
- questions related to lateral violence
- indications of trauma (adverse childhood experiences or life events)
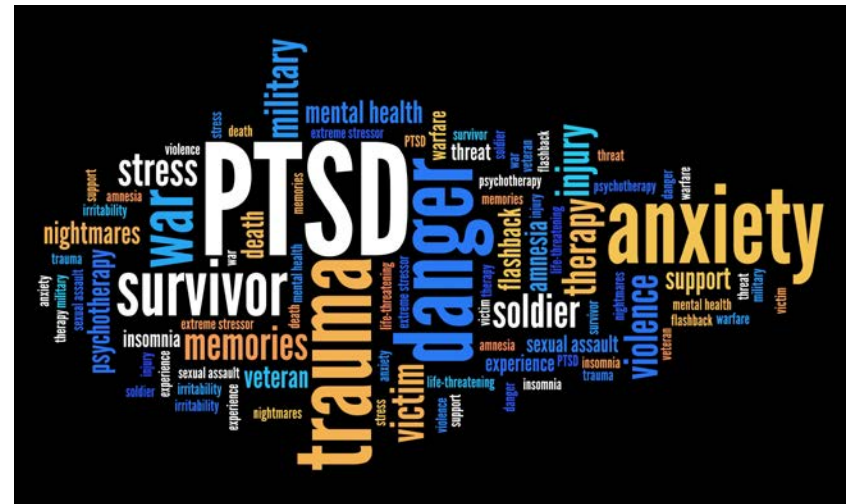
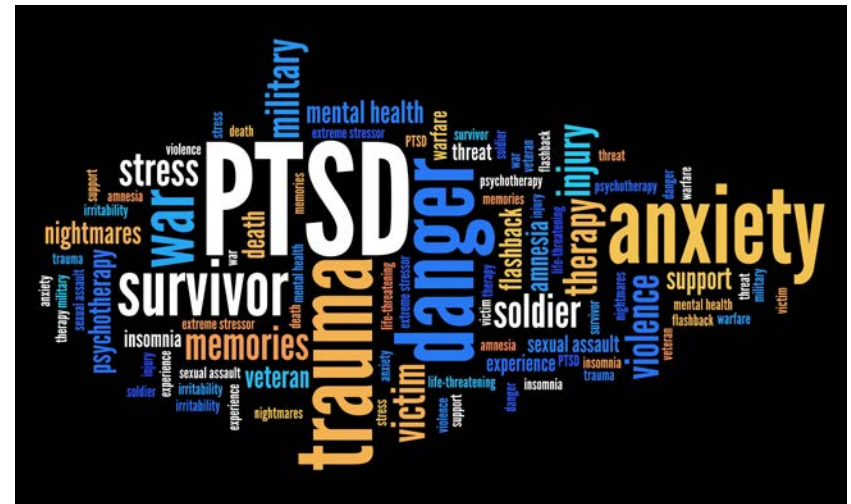# *Conclusions*

Further Examination of the Workplace..

- Nurses are at moderate risk for tobacco use at 11.6%; alcohol use at 11.6% and for other substances at 10.4%.

- These are concerning estimates.

- Trends in SU warrant further study on both individual and system levels, particularly nurse-specific trauma related to lateral violence and the influence of the organization.

School of Nursing

Conclusions

Effect of COVID-19

- 18% of nurses report increased alcohol intake

  (ANA Enterprise, 2020);

- Exacerbated traumatic experiences: Insufficient resource trauma, loss and grief...

- A gap in understanding Interface with organizations when nurses struggle...

PURDUE UNIVERSITY® | School of Nursing

THANK YOU AND QUESTIONS

PURDUE UNIVERSITY | School of Nursing

References

- ANA Enterprise. (2020). Pulse on the nation's nurses COVID-19 Survey Series: Mental health and wellness. https://www.nursingworld.org/practice-policy/work-environment/health-safety/disaster-preparedness/coronavirus/what-you-need-to-know/mental-health-and-wellbeing-survey/
- Darbro, N. (2005). Alternative diversion programs for nurses with impaired practice: Completers and non-completers. *Journal of Addictions Nursing, 16*, 169-185.
- Darbro, N. (2011). Model guidelines for alternative programs and discipline monitoring programs. *Journal of Nursing Regulation, 2*(1), 42-49.
- Darbro, N., & Malliarakis, K. D. (2012). Substance abuse: Risks factors and protective factors. *Journal of Nursing Regulation, 3*(1), 44-48.
- Fitzpatrick, J. J., Stevenson, J., & Sommers, M. (Eds.). (2005). Annual review of nursing research: Alcohol use, misuse, abuse, and dependence. Springer.
- Foli, K. J., Reddick, B., Zhang, L., & Krcelich, K. (2020a). Nurses' Psychological Trauma: "They leave me lying awake at night." *Archives of Psychiatric Nursing,* 34(3), 86-95.

References

- Foli, K. J., Reddick, B., Zhang, L., & Krcelich, K. (2020b). Substance use in registered nurses: 'I Heard About a Nurse Who….', *Journal of the American Psychiatric Nurses Association, 26*(1), 65-76. doi: 10.1177/1078390319886369
- Foli, K. J., Reddick, B., Zhang, L., & Edwards, N. E. (2019). Where legal, medical, and personal collide: Substance use in registered nurses. *Journal of Nursing Regulation*, *10*(2), 45-54.
- Foli, K. J., Zhang, L., & Reddick, B. (Epub, 2021 January 18). Predictors of substance use in registered nurses. *Western Journal of Nursing Research*.
- Kunyk, D. (2015). Substance use disorders among registered nurses: Prevalence, risks and perceptions in a disciplinary jurisdiction. *Journal of Nursing Management, 23*, 54-64. doi: 10.1111/jonm.12081
- Kunyk, D., Milner, M., & Overend, A. (2016). Disciplining virtue: Investigating the discourses of opioid addiction in nursing. *Nursing Inquiry, 23*(4), 315–326.
- National Council of State Boards of Nursing. (2011). *Substance use disorder in nursing: A resource manual and guidelines for alternative and disciplinary monitoring programs*. Author.

PURDUE UNIVERSITY | School of Nursing

References

- Monroe, T., & Kenaga, M. (2010). Don't ask don't tell: Substance abuse and addiction among nurses. *Journal of Clinical Nursing, 20*(3–4), 504–509. https://doi.org/10.1111/j.1365-2702.2010.03518.x
- Monroe, T., Kenaga, H., Dietrich, M. S., Carter, M. A., & Cowan, R. L. (2013). The prevalence of employed nurses identified or enrolled in substance use monitoring programs. *Nursing Research, 62*(1), 10-15. doi: 10.1097/NNR.0b013e31826ba3ca
- Monroe, T., Vandoren, M., Smith, L., Cole, J., & Kenaga, H. (2011). Nurses recovering from substance use disorders. *The Journal of Nursing Administration, 41*(10), 415-421.
- Mumba, M. N. (2018). Employment implications of nurses going through peer assistance programs for substance use disorders. *Archives of Psychiatric Nursing, 32*, 561-567.

- Rojas, J. I., Brand, M., Fareed, S., & Koos, E. (2013). Psychiatric comorbidities in health care professionals with substance use disorders. *Addictive Disorders and Their Treatment, 12*(2), 51-57. doi: 10.1097/ADT.0b013e318250a3d2

PURDUE UNIVERSITY | School of Nursing

References

- Ross, C. A, Berry, N. S, Smye, V., & Goldner, E. M. (2018a). A critical review of knowledge on nurses with problematic substance use: The need to move from individual blame to awareness of structural factors. *Nursing Inquiry, 25*(2), E12215-N/a.
- Ross, C. A., Jakubec, S. L., Berry, N. S., & Smye, V. (2018b). "A two glass of wine shift": Dominant discourses and the social organization of nurses' substance use. Global *Qualitative Nursing Research, 5*, 1-12. doi: 10.1177/2333393618810655
- Ross, C. A., Jakubec, S. L., Berry, N. S., & Smye, V. (2019). The business managing nurses' substance-use problems. *Nursing Inquiry, 27,* 1-12. doi: 10.1111/nin.12324
- Russell, K. A. (2017). Nurse practice acts guide and govern: Update 2017. *Journal of Nursing Regulation, 8*(3), 18–25.
- Trinkoff, A., M., Eaton, W. W., & Anthony, J. C. (1991). The prevalence of substance abuse among registered nurses. *Nursing Research, 40*(3), 172-175.
- Trinkoff, A. M., & Storr, C. L. (1998). Substance use among nurses: Differences between specialties. *American Journal of Public Health, 88*(4), 581-585.
- Trinkoff, A. M., Zhou, Q., & Storr, C. L. (1999). Estimation of the prevalence of substance use problems among nurses using capture-recapture methods. *Journal of Drug Issues, 29*(1), 187-198.

PURDUE UNIVERSITY | School of Nursing

EXTRA SLIDES

PURDUE UNIVERSITY. | School of Nursing

Limitations

- Respondents may have been more likely to report what is socially acceptable – social desirability.
- PI received phone calls regarding hesitation in responding to questions.
- Sample limitation, race, gender domination, other substance use categories have small sample size.
- Analysis limitation: current results are only association, not causality.

Dissemination from Project

Papers Published in Peer-Review Journals

- ## Phase 1
  Foli, K. J., Reddick, B., Zhang, L., & Edwards, N. E. (2019). Where legal, medical, and personal collide: Substance use in registered nurses. *Journal of Nursing Regulation*, *10*(2), 45-54.

- ## Phase 2
  Foli, K. J., Reddick, B., Zhang, L., & Krcelich, K. (2020). Substance use in registered nurses: 'I Heard About a Nurse Who....', *Journal of the American Psychiatric Nurses Association, 26*(1), 65-76. doi: 10.1177/1078390319886369

- Foli, K. J., Reddick, B., Zhang, L., & Krcelich, K. (2020). Nurses' psychological trauma: "They leave me lying awake at night." *Archives of Psychiatric Nursing,* 34(3), 86-95. http://doi.org/10.1016/j.apnu.2020.04.011

- Foli, K. J., Zhang, L., & Reddick, B. (Epub, 2021, January 18). Predictors of substance use in registered nurses: The role of psychological trauma. *Western Journal of Nursing Research.*

PURDUE UNIVERSITY | School of Nursing

Background: Policy and Regulation

- State Nurse Practice Acts (NPA) (Russel, 2017)

- National Council of State Boards of Nursing (NCSBN)

- Alternative-to-Discipline Programs

Indiana Nursing Board

Analysis

Statistical Analysis

- Descriptive statistics for individual variables were calculated using frequencies/proportions (categorical variables), means and standard deviations (continuous variables).

- For substance usages (e.g. alcohol, tobacco etc), a chi-square or fisher exact test was run to find significant association with categorical variables (e.g. gender, race etc.)

- Meanwhile, continuous variables (e.g. age, and some scores calculated from questionnaires) vs. substance usages were analyzed by using one-way ANOVA.

- A multivariate regression with variable selection was used to find useful variables that associate with substance usages.

PURDUE UNIVERSITY. | School of Nursing

Phase 1: License Litigation

The professional licensing boards, commissions, and committees within the Indiana Professional Licensing Agency are charged with the responsibility of disciplining licensees who have violated practice standards, acted dishonestly, or acted unethically.

- *Information regarding disciplinary actions taken against individual licensees is available online.*

https://www.in.gov/pla/3115

PURDUE UNIVERSITY® | School of Nursing

ASSIST (V3)

Outcome Variable: Substance Use

- Question 1: **In your life**, have you ever used….

- Question 2: In the **past three months**, **how often** have you used the substances you mentioned in…

- Question 3: In the **past three months**, how often have **you had a strong desire** or use to use….

- Question 4: During the **past three months**, how often has your use of ….. **led to health, social, legal, or financial problems**?