

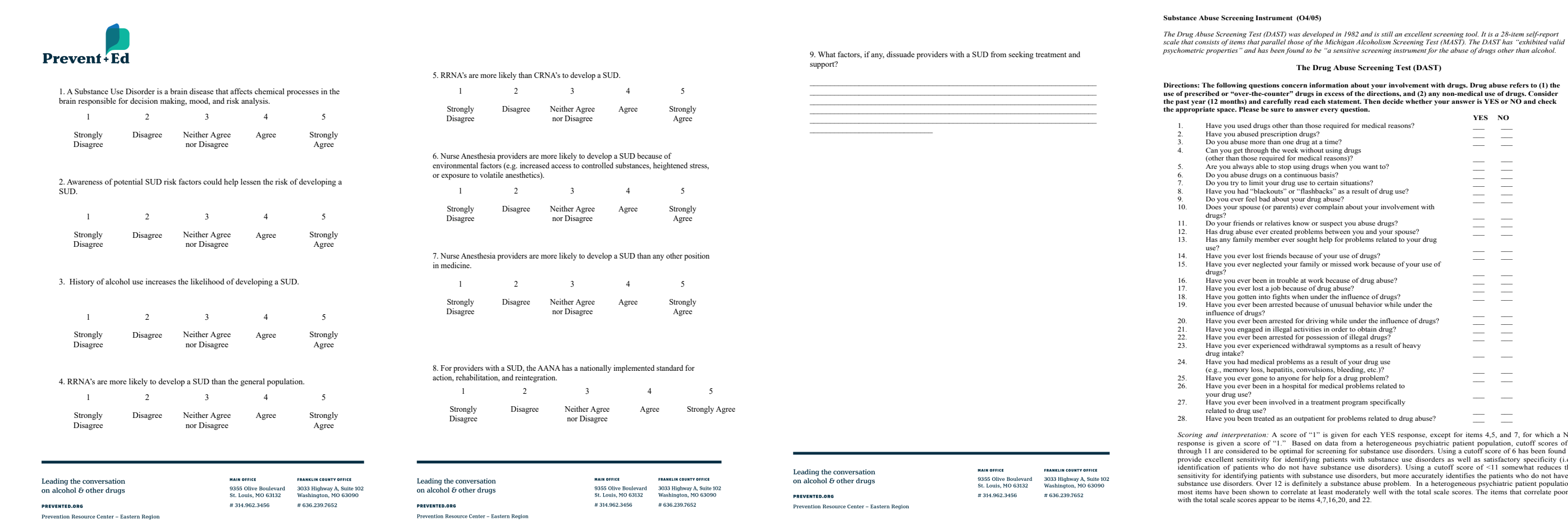
### Introduction

- Substance Use Disorder (SUD) is a neurobiological disease of the mind and body that affects **one in ten** Certified Registered Nurse Anesthetists (CRNAs).
- According to the Substance Abuse and Mental Health Services Administration, a pre-COVID survey illustrated that 13% of the American populace, or 35.8 million people 12 years of age and over, reported acute illicit drug use over the past year.
- 20.4 million individuals 12 years of age and over were identified with having SUD.
- The reported fiscal impact of SUD on Americans is estimated to **exceed 600 billion dollars annually**.
- According to the Centers for Disease Control, more than 93,000 drug overdose deaths were estimated to have occurred in the United States in 2020, **the highest number of overdose deaths ever recorded** in a 12-month period and **a nearly 30% increase** from 2019.

### Background

- CRNAs and Resident Registered Nurse Anesthetists (RRNAs) are responsible for individuals during the perioperative period; intraoperatively, and post-procedure care.
- The **first and last** quantitative analysis addressing the prevalence of SUD in the CRNA community, found that **10%** of practicing anesthetists had used, or were currently using illicit substances (Bell et al., 1999).
- Stone et al. (2021) **contest that 10-15 percent** of practicing nurse anesthetists will misuse alcohol or illicit substances during their careers.
- Other advanced practicing **nurse clinicians average an 8% incidence**.
- 73% of RRNAs had levels of stress on par with **significant life crises**.
- 78% of RRNAs **lack the resources to cope**.
- Nurse Anesthesia Programs nationwide are required by both AANA and COA to educate RRNAs on SUD.
- There is no studied or verified standard mandating the number of hours required, modality of education, frequency of education, specificity on the thoroughness of SUD education, its predisposing factors/traits, and current vulnerability of RRNAs. **SUD education varies significantly between NAPs**.
- Awareness of individual susceptibility to developing SUD can be instrumental in potentially mitigating initial disease progression

### Survey



### Methodology

#### Design

- Quasi-Experimental Pre-Interventional Gap Analysis.
- Sample/Population**
- Anesthesia Residents of the New England Assembly of Student Registered Nurse Anesthetist (NEASRNA), N=540-570.

#### Intervention

- Preintervention plan focused on two data collection tools; the first questionnaire is an original tool that assessed the propensity to develop substance use disorder, The Drug Abuse Screening Test (DAST). The second tool utilized a survey that identified the teaching needs of our study participants. This survey addressed gaps in participant knowledge related to substance use disorder, contributing factors in addiction, and prevalence in the nurse anesthesia community.
- Post analysis of the gathered descriptive statistics aided in the development of an educational modality to fulfill the gap in needs and distribution of tailored education modules on SUD through out NEASRNA Nurse Anesthesia Programs.

#### Data Collection

- Distribution of Surveys began on September 10, 2021, through October 30, 2021.
- Survey was published on Qualtrics for ease of access and data collection
- Distribution of education modality occurred on November 14, 2021.

#### Problem Statement

- Substance Use Disorder is a severe threat to the vocation of nurse anesthesia, the provider, the patient, and the institutions that employ them. SUD education is not standardized nationally among NAPs; the quality of education is therefore variant. Thorough, evidence based, and poignant education can help foster self-awareness. Self-awareness of one's own propensity to fall victim to SUD can mitigate potential illness. Building a well-organized and gap focused, standardized educational tool can help mitigate the incidence of SUD among future providers of anesthesia.

### Results

- The total participants who initiated survey response were 67.
- Of the 67 respondents, only 52 completed both the gap analysis survey and DAST, with 67 completing the DAST
- The gap analysis survey consisted of a 9-question survey, 8 responses of which followed a 5 integer Likert scale that measured general knowledge of RRNA's and SUD.
- DAST is a validated survey which assesses current disease prevalence of SUD. The survey is a 28-question survey, with either an affirmative or negative response, a scale score of 12 or greater confirms SUD diagnosis.
- Gap analysis survey yielded a Cronbach alpha value of 0.519, identifying poor internal consistency. An alpha-if-deleted item was also utilized to determine if any single question created a significant outlier. The greatest outlier to increase internal consistency, was question 5 of the survey which asked, "Are CRNA's more likely to develop SUD than RRNA's". The exclusion of this question would bring the Cronbach alpha to 0.619, thus establishing questionable rather than poor internal consistency
- Of the 67 respondents to the DAST no participant scored 12 or greater; the survey confirmed that no single tested RRNA currently had SUD. The greatest aggregate score was an 8.

### DAST

Sample mean (x)	1.19
Standard deviation (s)	1.64
Sample size (n)	67
Standard error	0.20036
Confidence level	95 %
or Z-score (Z)	1.959964 σ
or right tailed p value	0.025
Your sample's confidence interval is 1.19 ± 0.3927, or from 0.7973 to 1.583	

### Gap Survey

Sample mean (x)	27.35
Standard deviation (s)	3.37
Sample size (n)	52
Standard error	0.4673
Confidence level	95 %
or Z-score (Z)	1.959964 σ
or right tailed p value	0.025
Your sample's confidence interval is 27.35 ± 0.916, or from 26.43 to 28.27	

### Discussion

- Implementation failed to achieve the predicted requirement to establish power, the general results for the DAST survey were unilaterally equivocal
- Of those surveyed, not a single participants had confirmation of SUD diagnosis (DAST). This data can be examined from several viewpoints:
  - The results reflect current literature, which proports that the development of SUD occurs later in clinical practice. This emboldens the necessity of intervention to establish awareness and prevent future illness.
  - Participants were reluctant to divulge sensitive information for fear of punitive action despite mitigating factors,
  - SUD harbors a degree of denial and the survey was inaccurate due to the population and time of surveying. Regardless of the cause, the reality of the results tempers the failure to establish a powerful sample in some regard, since the results are so unilateral.
- Gap Analysis Survey largest areas of variance noted:
  - Does Alcohol use affect SUD development?
  - Are RRNA's are more likely to develop SUD than the general population?
  - Are RRNA's more likely than CRNA's to develop a SUD?**
  - Are Nurse Anesthesia providers more likely to develop SUD than any other position in Nursing?**
  - For providers with a SUD, does the AANA has a nationally implemented standard for action, rehabilitation, and reintegration?**
- RRNAs with SUD rates may noy be as high as CRNAs; however, SUD education in Nurse Anesthesia Programs can benefit from a more science based and uniform approach addressing the different facets of SUD and disease progression.

### Contact Information

David E. McNally – dem231@sn.Rutgers.edu  
 Michael Konstantinovskiy –mk1703@sn.Rutgers.edu

### SUD Education Module & References Link

