

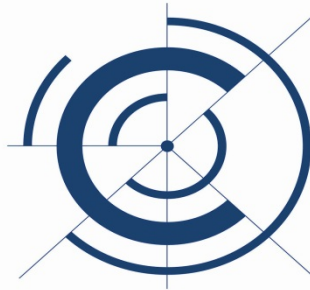


Disordered Gambling Pre-Screen and Screen Results

THE IOWA CONSORTIUM FOR SUBSTANCE ABUSE RESEARCH AND EVALUATION

**Disordered Gambling Pre-Screen and
Screen Results
April 2016**

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CONSORTIUM**
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Disordered Gambling Pre-Screen and Screen Results April 2016

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EXECUTIVE SUMMARY

Screening Brief Intervention and Referral to Treatment (SBIRT) is a five-year (July 2012 – August 2017) grant awarded to the Iowa Department of Public Health and funded by the U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration (SAMHSA); Center for Substance Abuse Treatment. SBIRT IOWA uses a comprehensive, integrated, public health approach to incorporate universal screening into medical practice and within the Iowa Army National Guard (IAARNG) to identify, reduce, and prevent hazardous alcohol or drug use. In addition to substance use issues, the IAARNG has also implemented problem gambling screening as part of the SBIRT process.

Iowa National Guard members, aged 18 or older, answer two prescreening questions about alcohol use and illegal drug use. Individuals receive substance use full screenings if they indicate any of the following occurring within the past year:

- Men up to age 65 report drinking 5 or more drinks in one day or over 14 drinks in one week.
- Women of any age and men over age 65 report drinking four or more drinks in one day or over seven drinks in one week.
- Any illegal drug use or prescription use for non-medical reasons by men or women of any age.

In addition to the pre-screen, IAARNG SBIRT providers also gave selected Soldiers a gambling prescreen question:

- During the past 12 months, how many times have you gambled?

Followed by full gambling screen if they answer "5 or more" to the prescreen question.

SBIRT IOWA uses two instruments to conduct full screenings for substance use and one for gambling. The 10-question Alcohol Use Disorders Identification Test (AUDIT) screens for risky drinking and alcohol disorders. The Drug Abuse Screening Test (DAST-10) screens for hazardous use of illegal drugs and prescription misuse. The gambling screen is an adapted screening tool loosely based on the nine DSM-V diagnostic criteria (Section A) for gambling disorder. Soldiers are also screened for depression symptoms using the Patient Health Screen (PHQ-9). The PHQ is a screening and diagnostic tool used by health care professionals for assessing mental health disorders. Substance use (AUDIT for alcohol or DAST-10 for drug use) and depression (PHQ-9) screening scores were present in the majority of the screening records. Those who were given the gambling prescreen/screen are the subject of this report.



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BACKGROUND

In July 2012, the Iowa Department of Public Health (IDPH) received a five-year grant to provide Screening, Brief Intervention, and Referral to Treatment (SBIRT) services by the Substance Abuse and Mental Health Services Administration (SAMHSA), Center for Substance Abuse Treatment (CSAT). SBIRT IOWA uses a comprehensive, integrated, public health approach to incorporate universal screening into medical practice and within the Iowa Army National Guard (IAARNG) to identify, reduce, and prevent hazardous alcohol or drug use. Specially trained substance use disorder treatment staff administers prescreening and screening for alcohol and other substance use to Soldiers affiliated with the IAARNG. Staff also conducts brief interventions, brief treatment sessions, and make referrals for substance use disorder treatment. The Iowa Consortium for Substance Abuse Research and Evaluation (Consortium) conducts the evaluation for the SBIRT IOWA project. The data provided in this report cover the beginning of the project (October 25, 2012) through February 29, 2016.

Screening/Assessment Tools and Scoring Key

SBIRT IOWA staff at the IAARNG administer the 10-question Alcohol Use Disorders Identification Test (AUDIT) when a Soldier pre-screens positive for risky alcohol use and the Drug Abuse Screening Test (DAST-10) when a Soldier pre-screens positive for drug use. Patient Health Screen (PHQ) is a screening and diagnostic tool used by health care professionals for assessing mental health disorders. The PHQ-9 is the depressive disorders module of the PHQ, and is an optional screening tool for SBIRT providers. Table 1 on the following page provides the scoring ranges, associated risk levels, and recommended services for the AUDIT, DAST-10, and PHQ-9.

Beginning in August 2015, selected Soldiers also received a gambling prescreen and, as necessary, a full gambling screen for disordered gambling. Soldiers who were identified as needing a Brief Intervention or other service based on either the AUDIT or DAST-10 were also indicated for receiving the gambling prescreen/screen. Those who were given the gambling prescreen/screen are the subject of this report.

Data Extraction

Data for these analyses were drawn slightly differently than for SBIRT annual reports in order to maximize the number of Soldiers with screenings. All National Guard gambling screen records were merged with records in the Activities file (downloaded May 10, 2016). The criterion for a successful merge was if an individual's Activity record was in the same month as the date on the gambling screen. Of the 125 gambling screen records, 123 successfully matched Activity file records.

Table 1. Screening Tool Scoring Key

Score	Risk Level	Recommended Service
AUDIT		
0 – 7	Low Risk or Negative	Encouragement and Education
8 – 15	Risky or Hazardous	Brief Intervention
16 – 19	High Risk or Harmful	Brief Treatment
20 – 40	High Risk	Referral to Treatment
DAST-10		
0	Low Risk	Encouragement and Education
1 – 2	Moderate Risk	Brief Intervention
3 – 5	Substantial Risk	Brief Treatment
6 – 10	Severe Risk	Referral to Treatment
PHQ-9¹		
0 – 4	Minimal Depression	Patient may not need depression treatment.
5 – 9	Mild Depression	Physician uses clinical judgment about treatment, based on patient's duration of symptoms and functional impairment.
10 – 14	Moderate Depression	
15 – 19	Moderately Severe Depression	Warrants treatment for depression, using antidepressant, psychotherapy and/or a combination of treatment.
Gambling Screen²		
1 - 3	Low Risk or Negative	Screening and Feedback
4 – 6	Risky or Hazardous	Gambling Brief Intervention
7 – 9	Possible Gambling Disorder	Gambling Brief Intervention and Referral to Gambling Treatment

¹ UMHS Depression Guideline, August 2011. PHQ-9 Questionnaire for Depression Scoring and Interpretation Guide. Retrieved from <http://www.med.umich.edu/1info/FHP/practiceguides/depress/score.pdf>

² Adapted by Iowa, based on the Illinois DG-SPS (Disordered Gambling-SBIRT Pre-Screen and Screen), DSM5, BBGS, and Elizabeth Hartney, Ph.D.

RESULTS

Sample

A total of 125 Soldiers received a gambling screening between August 13, 2015 and April 16, 2016. During that same period another 4,666 Soldiers received SBIRT screening but did not receive a gambling screen. Table 2 lists the number and percentages of Soldiers with and without a gambling screen broken down by the expected modality based on the drug and alcohol screen.

Table 2. Number of Soldiers with Gambling Screen

Alcohol/Drug Level of Risk	Gambling Screen (n = 125)	No Gambling Screen (n = 4,666)
Low Risk	8.1% (10)	96.7% (4604)
Risky or Hazardous	83.7% (103)	1.0% (47)
High Risk or Harmful	4.1% (5)	0.3% (12)
High Risk	4.1% (5)	0.1% (3)

Note: 2 gambling screen records did not have concurrent Activities information.

Over 90% of the gambling screens were given to Soldiers who screened positive on the alcohol or drug screening. However, not all positive alcohol/drug screens (n = 175) received a gambling screen (n = 113; 64.6%).

The following table, Table 3, shows the distribution of the gambling prescreening question, "During the past 12 months how many times have you gambled?"

Table 3. Gambling Prescreening Responses for 125 Soldiers.

Times Gambled in past year	n = 125	Percent
0	96	76.8%
1	9	7.2%
2	8	6.4%
3	6	4.8%
4	1	0.8%
10	3	2.4%
12	1	0.8%
18	1	0.8%

Note: The shaded area indicates need for a full screen, i.e., 5 or more times.

Of those five Soldiers who prescreened positive, four received a score of zero on the gambling full screen and one Soldier received a score of one. Thus, all of the Soldier reports were in the Low Risk or Negative range for gambling problems and no Soldier reported a greater risk. Based on these 125 assessments, none of which indicated problematic gambling, the 95% confidence interval runs between 0% and 2.9%, i.e., less than 3% of this population would be expected to have problematic gambling.

The following analyses are based on the 123 Soldiers with matching activities information. Of these 123 Soldiers, 115 (93.5%) were male with a median age of 22 years. Whites made up 94.9% of the sample and 69.7% had never been deployed.

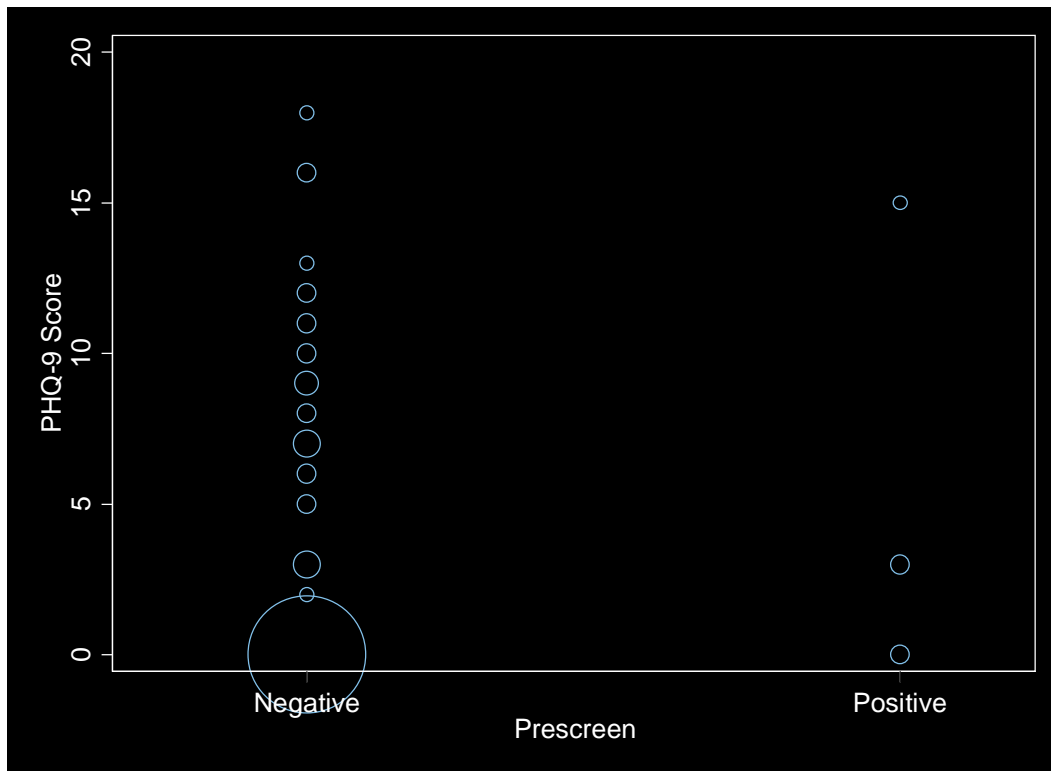
Comparison of Soldiers who prescreened positive or negative on the gambling prescreen

While the numbers of Soldiers who were screened for gambling is small and the number who scored positive on the prescreen were smaller, the following analysis compared those who prescreened negative and who prescreened positive. Prescreening positive means that the Soldier answered five or more to the question, "During the past 12 months how many times have you gambled?"

Depression

Only 116 Soldiers had PHQ-9 scores in this subset, 101 prescreened negative and five prescreened positive on the gambling screen. There was no statistically significant difference between the gambling prescreen status and PHQ-9 scores.³ Figure 1 shows a plot comparing the gambling prescreen status and the PHQ-9 scores, where the size of the circles reflects the number of Soldiers receiving that PHQ-9 score. There is no indication that depression (PHQ-9 score) relates to the Soldier's prescreen status.

Figure 1. Soldier's PHQ-9 Scores and Gambling Prescreen Status



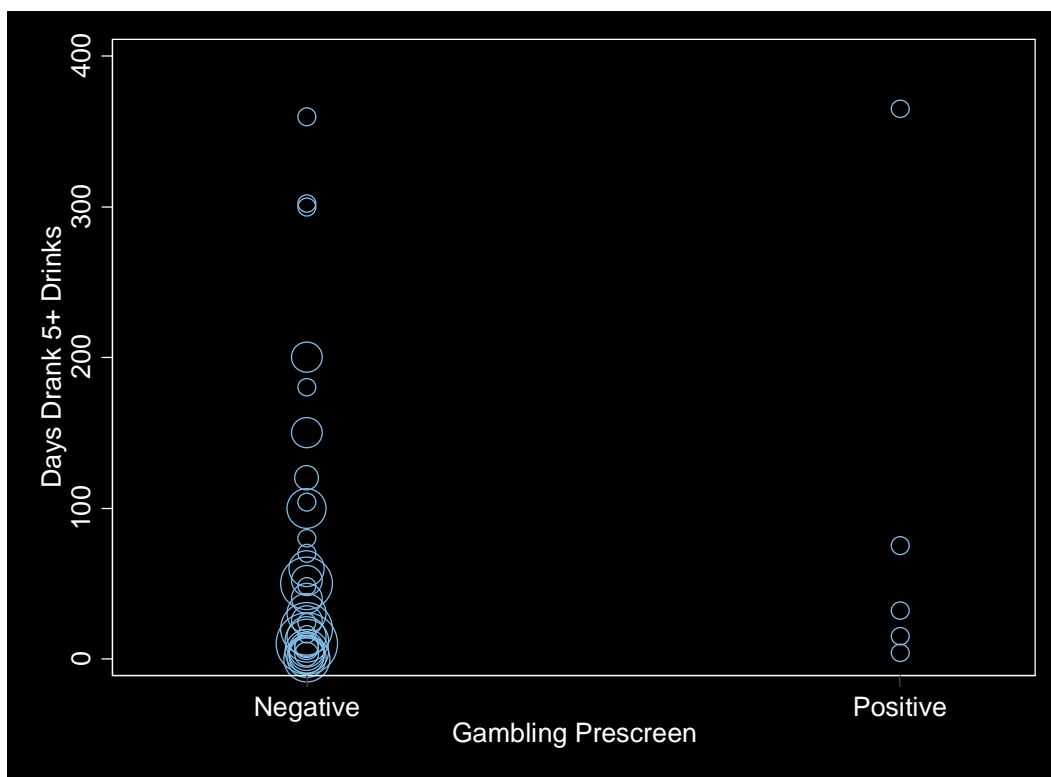
Note: The size of the circles reflects the number of Soldiers receiving that PHQ-9 score.

³ Mann-Whitney U-test, exact p = 0.290.

Alcohol

During the standard SBIRT process, Soldiers responded to "How many times in the past year have you had 5 or more drinks in a day?" as an alcohol prescreening question. There was no statistically significant difference between the gambling prescreen status and the number of times the Soldier reported drinking five or more drinks per day.⁴ Figure 2 shows a plot comparing the gambling prescreen status and the reported number of days drinking five or more drinks, where the size of the circles reflects the number of Soldiers indicating that many days. There is no indication that the number of heavy drinking days is related to the Soldier's gambling prescreen status.

Figure 2. Soldier's Reported Number of Times Drinking Five or more Times in a Day and Gambling Prescreen Status

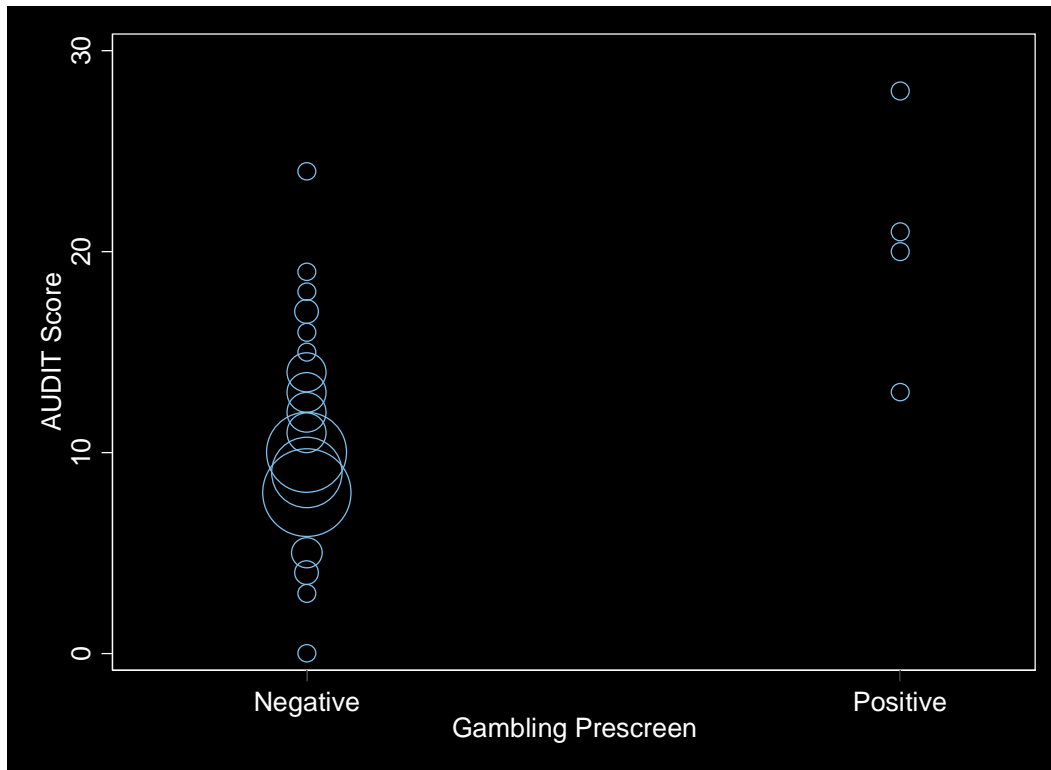


Note: The size of the circles reflects the number of Soldiers receiving that PHQ-9 score.

⁴ Mann-Whitney U-test, exact p = 0.339.

Individuals who indicate drinking five or more drinks in a day also receive an AUDIT screen. Of Soldiers receiving an alcohol prescreen, 100 received an AUDIT, 96 of which had a negative gambling prescreen and 4 had a positive gambling prescreen. There was a statistically significant difference in AUDIT scores between those with a positive versus negative gambling prescreen.⁵ Figure 3 shows a plot comparing the gambling prescreen status and the AUDIT scores, where the size of the circles reflects the number of Soldiers indicating that many days. Soldiers with positive gambling prescreens tended to have higher AUDIT scores than those with negative gambling prescreens.

Figure 3. Soldiers AUDIT Scores and Gambling Prescreen Status



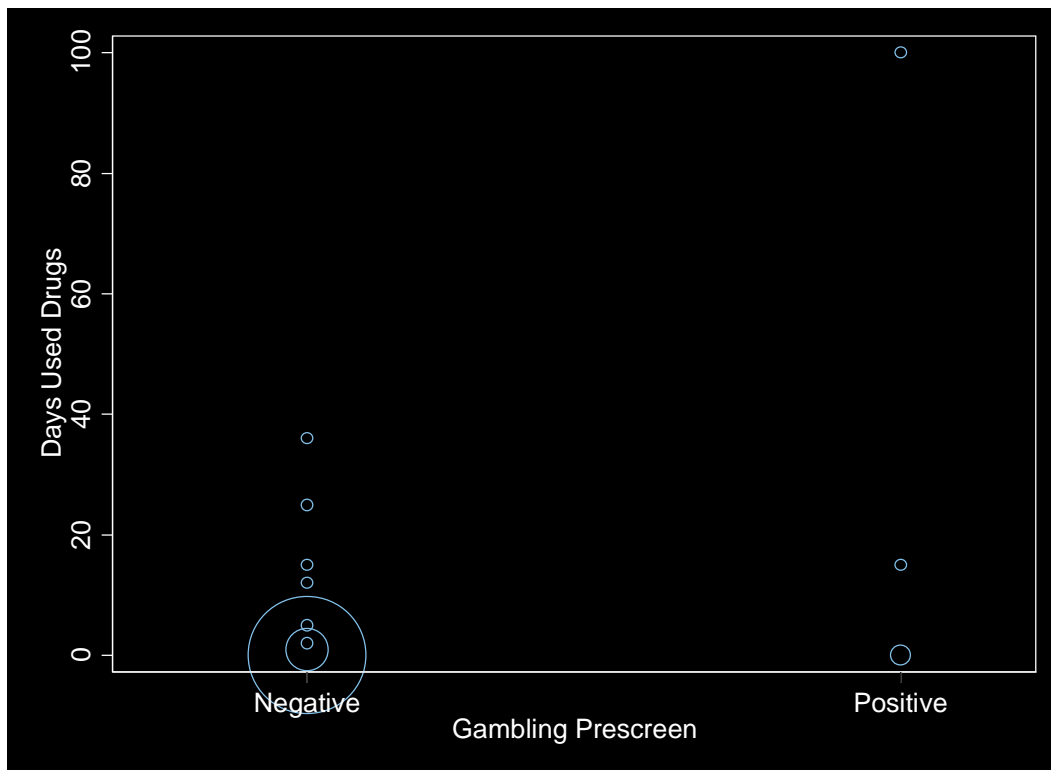
Note: The size of the circles reflects the number of Soldiers receiving that AUDIT score.

⁵ Mann-Whitney U-test, exact p = 0.001.

Illegal Drugs

During the SBIRT process, Soldiers are asked the question, "How many times in the past year have you used an illegal drug OR used a prescription medication for non-medical reasons?" Of the 123 Soldiers with matched data, positive responses to this question were relatively rare, occurring in only 17.1% of the sample. There was a marginally statistically significant difference in the number of days Soldiers reported using illegal drugs or prescription medication.⁶ Thus, there is some indication that the number of drug use days is associated with a positive gambling prescreen, however, this result may be equivocal.⁷

Figure 4. Number of Drug Use Days and Gambling Prescreen Status



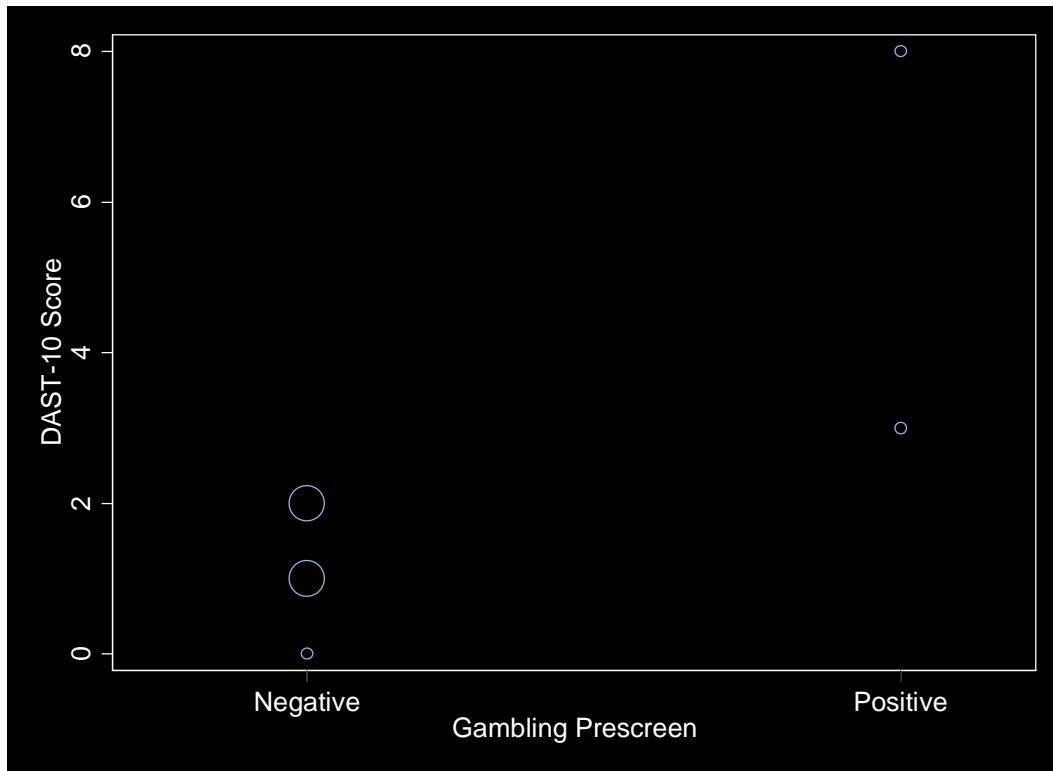
Note: The size of the circles reflects the number of Soldiers reporting that number of days.

⁶ Mann-Whitney U-test, exact $p = 0.039$.

⁷ Other statistical testing procedures indicated no significant difference.

Among the 21 Soldiers who admitted using an illegal drug or using a prescription medication for non-medical reasons, 19 prescreened negative on the gambling question and two prescreened positive. These 21 Soldiers also received a DAST-10 screen. While the sample sizes are very small, there was a statistically significant difference in DAST-10 scores.⁸ This difference is shown in Figure 5. The two Soldiers with positive gambling prescreens had the two largest DAST-10 scores.

Figure 5. DAST-10 Score and Gambling Prescreen Status



Note: The size of the circles reflects the number of Soldiers reporting that DAST-10 score.

SUMMARY

Only five of 125 Soldiers who received a gambling prescreen question as part of SBIRT went on to a full screen. Of those who received the full screen, none screened positive for gambling problems. As this sample of Soldiers tended to be those who prescreened positive for alcohol or drugs and would be expected to be more at risk for gambling problems, the already low percentage may be an overestimate of gambling in the more general population of Soldiers.

Analyses assessing the relationship of prescreening positive for gambling to depression or other substance use measures gave mixed results. There was no indication that prescreening positive related to:

⁸ Mann-Whitney U-test, exact p = 0.005.

- Depression (PHQ-9 scores),
- Reported number of times drinking five or more times in a day,

There was indication of a relationship of gambling prescreen status and:

- Alcohol Use as measured by the AUDIT,
- Number of days using drugs, and
- DAST-10 score.

Interpreting these results is problematic since not all Soldiers received all measures. For example, only Soldiers who indicated that they drank five or more times a day in the past received an AUDIT score. Therefore, we were only able to assess relationships in selective subsamples. In addition, not all Soldiers who screened positive for alcohol or drug use received a gambling screen. While it is unlikely that the subset who received gambling screens was chosen completely at random, there is no information of how well these results would generalize.

There is no psychometric information about the gambling screen instrument. Thus, the reliability and validity of the instrument is unknown.

