

# INDIANA SBIRT

Toward Integrated Care: How Brief Screening Tools Can Help Identify and Address Alcohol Use and Depression Comorbidity

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# Disclosure Statement

None of the authors have any conflicts to disclose.

# Introduction

Much of the existing research related to alcohol and depression comorbidity (also called 'dual diagnosis') has focused on the interplay of causal factors (McGrath, Nunes, & Quitkin, 2003).

This study moves in a different direction. We asked: *can screening tools contribute to their identification and management of alcohol and depression comorbidity?*

# Introduction

It is well established in the literature that alcohol use and depression are comorbid. The interplay between the two is highly complex (which precedes the other and in what circumstances).

E.g...

- Grant & Harford, 1995
- Swendsen & Merikangas, 2000
- Fergusson, Boden, & Horwood, 2009

# The Study

**Who:** 6,330 adult patients\* who attended a primary care visit with a physician between January 31<sup>st</sup>, 2012 and September 26<sup>th</sup>, 2012 at one of five community health centers.

**Hypothesis:** Patients who fall into increasingly serious diagnostic zones on the AUDIT screening tool will report correspondingly higher levels of depression as measured by the PHQ-9 screening tool.

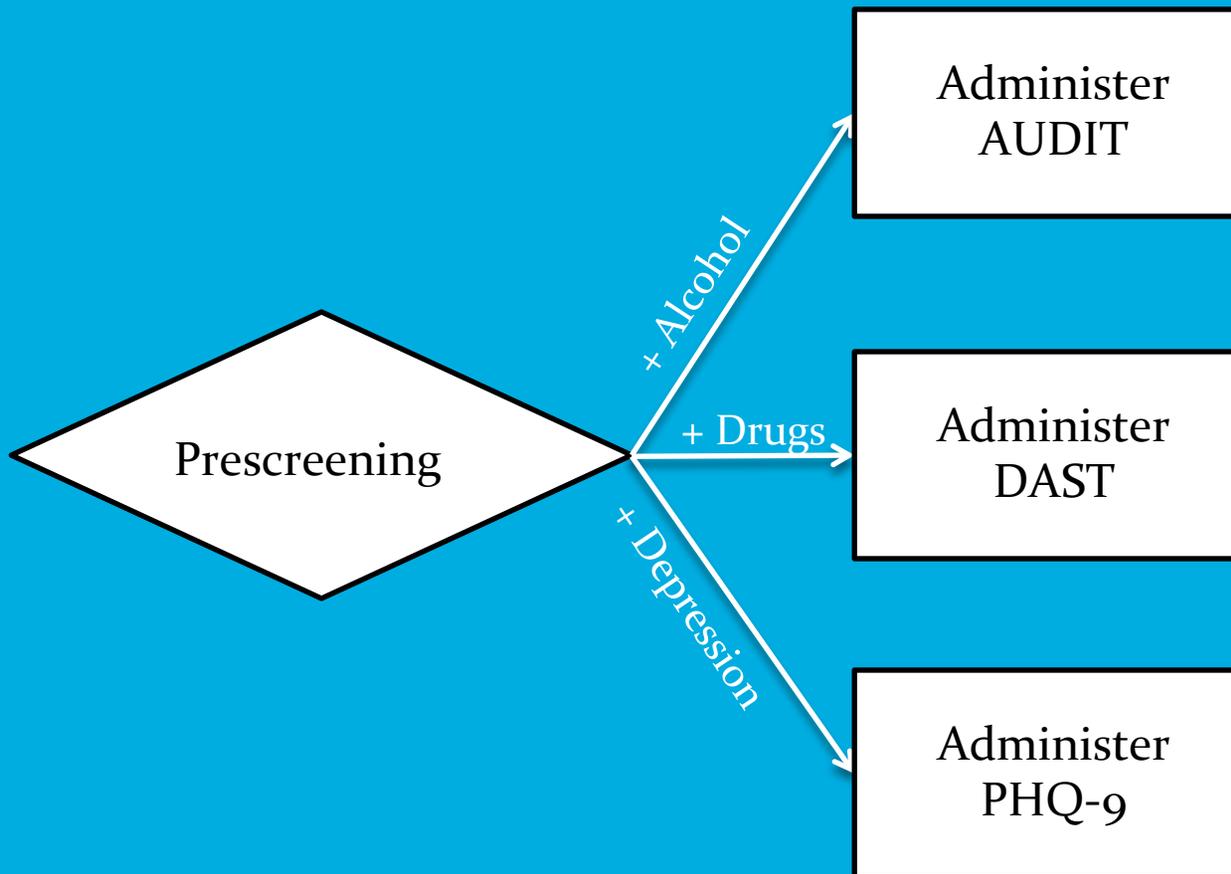
\* This sample was drawn from a larger sample of 10,268.

# Methods

**Methods:** All patients in this study responded to four 'pre-screening' questions (one for alcohol, one for drugs, and two for depression).

A 'positive' (non-zero) response to a question triggered administration of the associated 'full' screening tool (AUDIT for alcohol, DAST for drugs, PHQ-9 for depression).

# Methods



# Methods

**Methods (cont'd):** Both the AUDIT and the PHQ-9 separate patients into diagnostic zones based on the seriousness of their self-reported data.

An additional category exists for patients who prescreened negative and who thus did not even complete the AUDIT or PHQ-9 screening tools.

# Depression Among Patients

Breakdown of Patients (N=6,330):

	<i>n</i>	%
No Depression	4,932	77.9
Minimal Depression	181	2.8
Mild Depression	354	5.6
Moderate Depression	365	5.8
Moderately Severe Depression	300	4.7
Severe Depression	198	3.1

# Alcohol Use Among Patients

Breakdown of Patients (n=6,330):

	<i>n</i>	%
No AUDIT Indicated	5,818	91.9
Zone 1 ( <i>least severe</i> )	316	5.0
Zone 2	139	2.2
Zone 3	28	0.4
Zone 4 ( <i>most severe</i> )	29	0.4

# Results

We used a one-way Analysis of Variance (ANOVA) test to learn that patients in different diagnostic zones for alcohol use report significantly different depression scores.

**f=39.14, p<.001**

This finding is consistent with previous findings related to comorbidity.

# Results

Because the overall ANOVA test was significant, we used the conservative Tukey's HSD test to further explore the differences that we found.

Tukey's test lets us examine mean differences in depression levels based on AUDIT categories.

# Results

<b>AUDIT Category</b>	<b>Mean Difference in Depression Score*</b>
Zone 1	+0.69
Zone 2	+0.65
Zone 3	+1.54
Zone 4	+1.13

Mean differences indicate the average increase in depression level for the given AUDIT zone compared to a patient who prescreened negative for alcohol.

\*All mean differences are significant at  $p < .001$

# Results

These findings suggest that simply by prescreening positive for alcohol (becoming eligible to take the AUDIT), a patient is at heightened probability to report depressive characteristics as measured by the PHQ-9 tool.

This probability is also significantly higher for AUDIT Zone 3 relative to Zones 1 and 2.

# Results: Sub Analysis

We restricted the sample to only those patients who were in AUDIT Zone 1 through Zone 4.

Secondary ANOVA analysis indicated that after excluding patients who prescreened negative for alcohol, AUDIT diagnostic zone differentiated reported levels of depression.

**$f=2.94, p=.033$**

# Results: Sub Analysis

Patients who were in AUDIT Zone 4 reported a mean increase in depression score relative to patients in Zone 1 as measured by Tukey's HSD test.

**Mean Increase:** +0.82,  $p=.027$

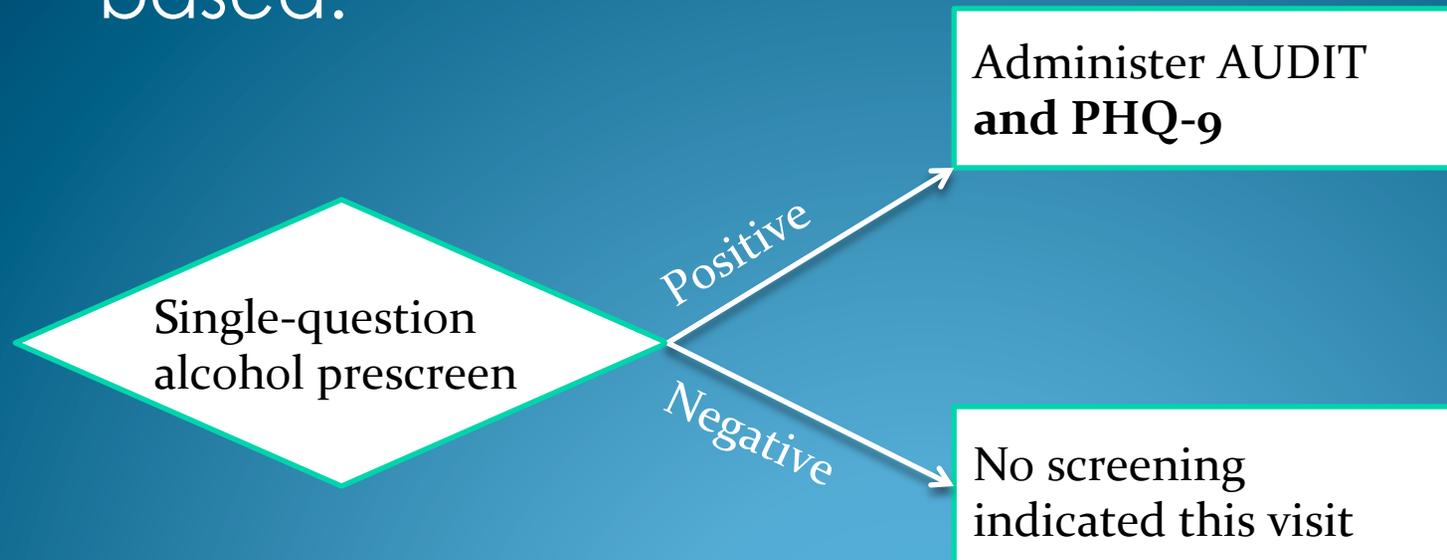
# Implications

These preliminary findings have some important implications.

- Further research in this area should be conducted to verify findings.
- If the findings are verified, a full depression screening may be indicated for any patient who is eligible for the AUDIT.
- In a time-strapped clinic, this may expedite the prescreening process.

# Implications

The primary finding may suggest utilitarian modification of patient flows in high-volume clinics. For example, further research may suggest that this 'snapshot' is evidence-based.



# Limitations

This research was conducted as part of a live, *service oriented* project. As such, rigorous experimental designs were not possible.

- Self-report levels of alcohol use appear to be lower than would be expected.
- Shared characteristics may exist among individuals who provided false negatives to the prescreening questions.

# References

Fergusson, D.M., Boden, J.M., & Horwood, J. (2009). Tests of causal links between alcohol abuse or dependence and major depression. *Archives of General Psychiatry*, 66(3), 260-266.

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