

# Anxiety and Depression Assessment – the Walgreens and Mental Health America Collaboration

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***Collaboration helped guide users with significant mental health symptoms to treatment and care***

## BACKGROUND

- In 2016, Walgreens and Mental Health America (MHA) began a collaboration to address the needs of those living with mental illness and to promote the overall mental health of all Americans. Walgreens provided access to MHA online screening tools for depression, anxiety, bipolar disorder, post-traumatic-stress disorder, and other conditions in a new Mental Health Answers section on its website: [www.walgreens.com/mentalhealth](http://www.walgreens.com/mentalhealth). Through MHA, individuals can access treatments and care with mental health providers and specialists in local communities, as well as with MHA affiliates across the United States.

## OBJECTIVES

- This study examines overall responses from online visitors to the Walgreens Mental Health Answer Center webpage; additionally it focuses on measures of anxiety and depression to understand their relationship to respondents' background characteristics, and to other standardized depression and anxiety scales.

## METHODS

- Completed assessments from the 9 available MHA screening tools were collected between May 2016 and December 2017. An additional process, designated as “*Filtered Responses*”, was implemented to determine unique assessments from a given individual in order to examine associations between demographics, health conditions, or respondent's intended ‘next steps’ after viewing their results.
- First assessments from each “unique” respondent allowed for an investigation of the associations among available variables as cross-tabulations and correlations. The depression (Patient Health Questionnaire, PHQ-9)<sup>1</sup> and anxiety (General Anxiety Disorder, GAD-7)<sup>2</sup> screening tools were compared to the PROsetta Stone® linked adult PROMIS® scores for depression<sup>3</sup> and anxiety scales. The PROMIS® link scores are T-scores, with four severity levels (normal, mild, moderate, and severe). Linked standardized values are provided in PROsetta Stone® for determining levels across different scales.<sup>3,4</sup>

## RESULTS

- A total of 6,619 screening assessments were completed from May 2016 to December 2017, of which 3,082 were completed by 1,611 filtered unique respondents.

- As reported in Table 1, the two most frequently completed measures are the PHQ-9 for depression, and GAD-7 for anxiety. Overall, 76.6% of all responses were at the higher severity levels per scale, and only 23.2% were at the lower severity levels per scale.

**Table 1. Completed Assessments on Walgreens Website Link to MHA Screening Page\* (May 2016-Aug 2017).**

Screening	Count	%Total	Severity Levels	% Severe	% Lower
Depression (PHQ-9)	2,021	30.5	Severe-Moderate	81.9	18.1
Anxiety (GAD-7)	1,743	26.3	Severe-Moderate	77.2	22.8
Bipolar (MDQ)	1,251	18.9	Positive	62.4	37.7
PTSD (PC-PTSD)	583	8.8	Positive	87.0	13.0
Psychosis (PQ-B)	412	6.2	Possible Risk	79.8	20.2
Alcohol (CAGE-AID)	230	3.5	Likely Abuse	81.3	18.7
Parent (PSC-Parent)	183	2.8	At Risk	64.5	35.5
Youth (PSC-Youth)	129	2.0	At Risk	73.6	26.4
Eating (SWED)	67	1.0	At Risk	83.6	4.4

\*Severity categories based on published norms for interpreting scale values provided through MHA.

- Filtered responses are reported in Table 2. Like the total responses (Table 1), depression and anxiety assessments are still the most frequent, the screening distribution is comparable, but the percent of severe (81.7%) is somewhat higher. These similarities suggest that the following analyses can be informative about associations to demographics, intentions toward treatment, and linked scales.

**Table 2. Initial Assessment from Filtered Responses on Walgreens Website Link to MHA Screening Page\* (Sep 2016-Dec 2017).**

Screening	Count	%Total	Severity Levels	% Severe	% Lower
Depression (PHQ-9)	553	34.3	Severe-Moderate	87.9	18.1
Anxiety (GAD-7)	433	26.9	Severe-Moderate	82.0	22.8
Bipolar (MDQ)	287	17.8	Positive	74.2	37.7
PTSD (PC-PTSD)	124	7.7	Positive	91.1	13.0
Psychosis (PQ-B)	79	4.9	Possible Risk	45.6	20.2
Alcohol (CAGE-AID)	45	2.8	Likely Abuse	86.7	18.7
Parent (PSC-Parent)	49	3.0	At Risk	73.5	35.5
Youth (PSC-Youth)	28	1.7	At Risk	75.0	26.4
Eating (SWED)	13	0.8	At Risk	76.9	4.4

\*Severity categories based on published norms for interpreting scale values provided through MHA.

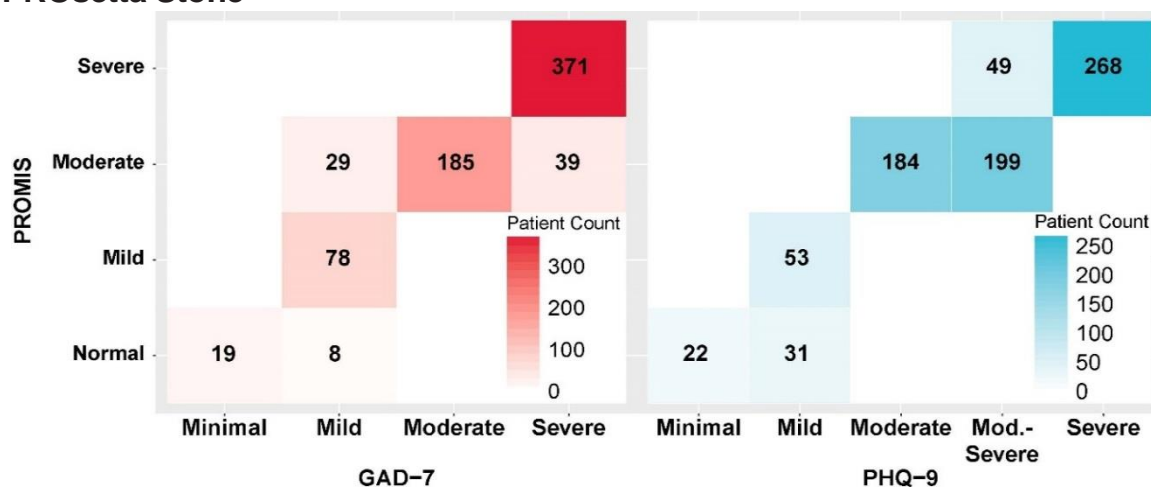
- Depression and anxiety were the most frequently taken measures (61.2% of first assessment). These results were then examined by self-reported social roles (i.e. student, new mother, care giver, LBGT, and veteran) and their next actions to take given the results of the assessment (i.e. discuss w/friend family, additional information, seek treatment, monitor with assessments, or none).
- To address low counts on the lower levels of severity, the same dichotomous distinction (severe/less severe) was continued in bivariate comparisons. Dichotomous variables were also used in the multiple-response options for next steps after screening or roles in bivariate comparisons. Finally, the numeric scale score was correlated with the number of next steps chosen, the number of health conditions reported, age, and income level (see Table 3).
- For depression PHQ-9 numeric scores, higher scale scores were positively correlated with lower income levels ( $p < .0001$ ), and positively associated with number of health conditions reported ( $p < .02$ ) and with interest in taking a next step ( $p < .02$ ). Bivariate associations with level of severity was significantly higher with prior mental health diagnosis ( $p < .0003$ ), being female ( $p < .05$ ), being a caregiver ( $p < .02$ ), and next step as “seek therapy” ( $p < .04$ ) or “monitor with screening” ( $p < .03$ ).
- For anxiety GAD-7 numeric scores, higher scale values were positively correlated with lower income levels ( $p < .0007$ ), and positively correlated with variety of requests selected for MHA assistance ( $p < .003$ ). Bivariate associations with severity level were higher for women ( $p < .04$ ), with prior mental health diagnosis ( $p < .005$ ), and positively associated with next step as “seek therapy” ( $p < .002$ ).

**Table 3. Bivariate Analysis on Filtered Responses: Self-Reported Characteristics**

Variable	GAD-7 Severity	PHQ-9 Severity
Gender	Female > Male	Female > Male
Age	Not significant	Not significant
Income	Under \$40k > Over \$80k	Under \$40k > Over \$80k
Ethnicity Groups	Not significant	Not significant
Role	Not significant	Caregiver
Prior MH Diagnosis	Yes > none	Yes > none
Health Condition	Not Significant	Not Significant

- Comparisons between linked PROMIS® severity levels and either the PHQ-9 or GAD-7 severity levels found most patients concordant across scales ( $r = .92$  or  $r = .90$ , respectively). However, there is one more severity level for the PHQ-9 than PROMIS®, resulting in 3.8% of normal PROMIS® levels classified as ‘mild’ level for the PHQ-9; and 6.1% of the highest ‘severe’ PROMIS® level as a moderate-severe level for PHQ-9. For the anxiety linked scores, 1.1% of the PROMIS® normal range for anxiety scores are at a ‘mild’ level on the GAD-7. At the ‘moderate’ PROMIS® level, 9.3% of the GAD-7 scores are discordant as either ‘mild’ or ‘severe’. These differences between the scale severity scores and PROMIS are the off-diagonal cells (discordant) in Figure 1 for anxiety or depression.
- Examining the discordant individual’s characteristics, gender was the only significant association for anxiety scales, where more women than men had different classification levels.

**Figure 1. GAD-7 and PHQ-9 Severity Levels Linked to PROMIS® Scale Severity Levels in PROsetta Stone®\***



\*Severity categories based on published norms for interpreting scale values in PROsetta Stone®.

## CONCLUSIONS

- Walgreens Mental Health Answer Center webpage provided access to the Mental Health America online screening tools. Depression and anxiety assessments were the most commonly completed, and a majority of individuals indicated a severe level of symptoms, and intended to take additional steps, including seeking treatment. These results demonstrate a successful collaboration that helped guide online respondents with significant mental health symptoms to treatment options.
- Examination of the first assessment of depression found significant associations with income level, prior mental health condition, being female, and a caregiver for someone with depression. Significant anxiety associations included income level, prior mental health condition, and being female. These significant associations are supported by common trends in the literature for these two disorders or more severe mental illness.
- The correlation between the MHA anxiety and depression screening tools with the standardized PROMIS® scales suggest that the online service provide valid feedback.
- Digital health tools provided by a trusted source can help improve the mental health of Americans.

## References

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