

## Multimedia Appendix 2. Sensitivity Analysis of Diagnostic Algorithms using Hospital Anxiety and Depression Scale (HADS)

Binary logistic regression was used to relate the eMindLog-derived GAD and MDD, to scores from the HADS-Anxiety and HADS-Depression subscale scores. Zigmond and Snaith [1] recommended a cutoff of 8 for borderline cases and 11 for valid cases. Bjelland, Dahl, Haug, and Necklemann [2] noted that 8 is the optimal cutoff scores for studies conducted in the general community. Both these cutoffs were employed in a logistic regression.

Anxiety: Using a cutoff of 8, 96 of the 192 (50%) subjects were categorized as having at least 'borderline anxiety'. The regression predicting 'borderline anxiety' from the eMindLog indexes (Anxiety, Anger, and Anhedonia/Sadness) was significant, but only Anxiety had a significant unique effect. So Anger and Anhedonia/Sadness were dropped from the model. The reduced model was significant,  $\chi^2(1)=59.39$ ,  $P<.001$ ,  $OR$  2.18, sensitivity=.77, specificity=.65,  $AUC=.80$ . Using a cutoff of 11 for valid cases, 43 of 192 (22%) subjects were categorized with 'anxiety'. Anhedonia/Sadness did not have a significant effect, but a model containing Anxiety and Anger was significant  $\chi^2(2)=80.43$ ,  $P<.001$ , sensitivity=.84, specificity=.80,  $AUC=.90$ , with both Anxiety,  $\chi^2(1)=26.91$ ,  $P<.001$ ,  $OR$  2.58, and Anger,  $\chi^2(1)=5.14$ ,  $P=.023$ ,  $OR$  1.34, having significant unique effects.

Depression: Using a cutoff of 8, 27 of 192 (14%) subjects qualified for a category of at least 'borderline depression'. Only Anhedonia/Sadness had a significant effect,  $\chi^2(1)=34.18$ ,  $P<.001$ ,  $OR$  2.15, sensitivity=.78, specificity=.70,  $AUC=.82$ . Using a cutoff of 11 for valid cases, 10 of 192 (5%) subjects were categorized as having 'depression'. Only Anhedonia/Sadness had a significant effect,  $\chi^2(1)=25.70$ ,  $P<.001$ ,  $OR$  2.56, sensitivity=.90, specificity=.86,  $AUC=.94$ .

1. Zigmond AS, Snaith RP. The hospital anxiety and depression scale. *Acta Psychiatr Scand.* 1983 Jun;67(6):361-70. PMID:6880820
2. Bjelland I, Dahl AA, Haug TT, Neckelmann D. The validity of the Hospital Anxiety and Depression Scale. An updated literature review. *J Psychosom Res.* 2002 Feb;52(2):69-77. Review. PMID:11832252