Tracking Bipolar Mood States with Survey Data
Individual Project: Status #1

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GT GitHub Repository
Patient Interface
Provider Interface

1 BACKGROUND

The project is a pair of SMART on FHIR interfaces that supports treatment of bipolar patients. These interfaces collect patient- and provider-entered depression and mood state information using validated surveys (Berk, et al., 2007; Tsanas, et al., 2016); the provider interface also displays a collated graph of patient and provider data, as well as their individual components. For the purposes of this project historical data will be generated.

2 STATUS 1: ACTIVITIES

Work for week 11 was completed as planned through the submission on November 1. The following stories, comprising the whole of the plan for week 12, have been completed:

- Provider portal: design BDRS questionnaire resource
- Provider portal: design BDRS questionnaire front end
- Patient portal: design mood questionnaire resource
- Patient portal: design mood questionnaire front end

In addition, I have commenced work on the following week 13 stories:

- Provider portal: write QuestionnaireResponse to FHIR server
- Patient portal: write QuestionnaireResponse to FHIR server

During this week's activities I identified a more appropriate citation for the mood questionnaire: Tsanas, et al. (2016) originally proposed the self-reported mood criteria used by my original citation of Perez-Arribas, Goodwin, Geddes, Lyons, & Saunders (2018). I updated the Questionnaire resource to identify the prior

resource; I do not foresee any other system changes based on this improved citation.

3 STATUS 1: CHALLENGES

No significant challenges were encountered during this development iteration.

4 STATUS 1: PLANS

The activities for week 13 include:

- writing and validating patient and provider QuestionnaireResponse data to the FHIR server.
- creating a general algorithm for creating synthetic mood and BDRS data for system demonstration purposes.

Due to a lack of extant example data either for a template or as a validation, the latter is anticipated to be difficult to do well; rather than realistic data the primary goal is to generate sensible data.

5 CONCLUSION

Bipolar disorder is a chronic illness that has a long-established standard of care yet continues to be characterized by poor outcomes and high direct and indirect medical cost. It is hoped that this data collection tool will improve patient understanding and help providers recognize and address critical mood transitions before they become catastrophic.

6 REFERENCES

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