Neuropsy2QB

TOWARDS A QUANTITATIVE BIOLOGICAL APPROACH FOR NEUROPSYCHIATRY

Draft Call

NEUROPSY2QB – WHY?

- Neuropsychiatric drug discovery has almost completely stalled

  - Psychotic and affective disorders still present significant challenges, not least those associated with an aging population

  - Treatments for other aspects of neuropsychiatry, e.g. cognitive dysfunction, have only minimal effect

- Diagnosis of neuropsychiatry conditions is still based on *qualitative* assessment of symptoms, defined by convention, rather than *quantitative* analysis of aberrant biology

CHALLENGE & OPPORTUNITY

- Validation of biologically based diagnostic criteria would enhance:

  - Choice of the right treatment for the right patient

  - Better and more consistent stratification for clinical trials

  - Identification of new targets & routes for registration

  - Reverse and forward translation

- A wide range of technologies & opportunities are emerging including: EEG, AER, MEG, Imaging MRI & PET, Improved Blood biomarker platforms, Neuropsychology testing, etc

CONCEPT

- A battery of techniques would be implemented to asses subjects in an unbiased manner both clinically and by homology pre-clinically

- One or more traditional symptom domains (e.g. psychosis) would be used to identify two, or more, patient groups for comparison (e.g. dementia and schizophrenia)

- Post-hoc analysis would identify amongst others:

  - a minimal diagnostic set and rational criteria for stratification

  - Causal relationships with underlying biological substrates

  - Parameters for reverse translation to pre-clinical studies

  - Understanding of neural circuits and the connectome