Mental health research in UK Biobank

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Mental health research in UK Biobank

- What data on mental health are available?
- What have we done so far?
- Where next?
Touchscreen questionnaire items (baseline):

*On all participants:*
- Self-reported mental illness
- Current psychiatric medication use
- Family history of mental illness
- Self-reported alcohol use
- Neuroticism assessment

*On one third of participants:*
- Current and lifetime features of depression
- Lifetime features of bipolar disorder
Diagnostic breakdown, probable lifetime diagnoses of mood disorder (n=132,689)

- Bipolar disorder, n=1,604
- Recurrent major depression (severe), n=7,382
- Recurrent major depression (moderate), n=12,863
- Single episode major depression, n=7,906
- Non mood-disordered comparison group, n=102,934

Summary: People with features of depression or bipolar disorder had worse cognitive performance, but not when confounding factors were considered in detail.
Summary: Individuals with low birth weight or ‘very low’ birth weight had higher neuroticism scores and were more likely to have features of depression or bipolar disorder as adults.
Summary: Individuals with features of depression or bipolar disorder had increased risk of cardiovascular disease and high blood pressure, particularly those taking psychiatric medications.
Assessment of Neuroticism:

1. Does your mood often go up and down?
2. Do you ever feel 'just miserable' for no reason?
3. Are you an irritable person?
4. Are your feelings easily hurt?
5. Do you often feel 'fed-up'?
6. Would you call yourself a nervous person?
7. Are you a worrier?
8. Would you call yourself tense or 'highly strung'?
9. Do you worry too long after an embarrassing experience?
10. Do you suffer from 'nerves'?
11. Do you often feel lonely?
12. Are you often troubled by feelings of guilt?
IMMEDIATE COMMUNICATION

Genome-wide analysis of over 106000 individuals identifies 9 neuroticism-associated loci

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• What data on mental health are available?

• What have we done so far?

• Where next?
Health record linkage:

• Death registrations

• Hospital inpatient episodes (ICD-10 diagnoses)

• Primary care data
  – (Read codes, diagnoses, referrals, prescriptions, etc.)
Mental health questionnaire (2016)

- Current depression (PHQ-9 score)
- Major depressive disorder (including post-partum depression)
- Bipolar disorder
- Current anxiety (GAD-7 score)
- Generalised anxiety disorder
- Alcohol use disorder screening (AUDIT score)
- Previous addiction to alcohol or drugs
- Screening for previous psychotic symptoms
- Traumatic experiences as a child and as an adult
- Self-harm and suicidal behaviour
Conclusion: mental health in UK Biobank

• Significant discoveries already published and several others are in progress

• A new mental health questionnaire in 2016 will add considerable value to the resource

• Genomics, blood assay, brain imaging data and linkage to primary care data will all greatly enhance future research possibilities (and benefits to patients).
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Collaborators:

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**Cardiff:** Mick O’Donovan, Ian Jones, Valentina Escott Price

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