

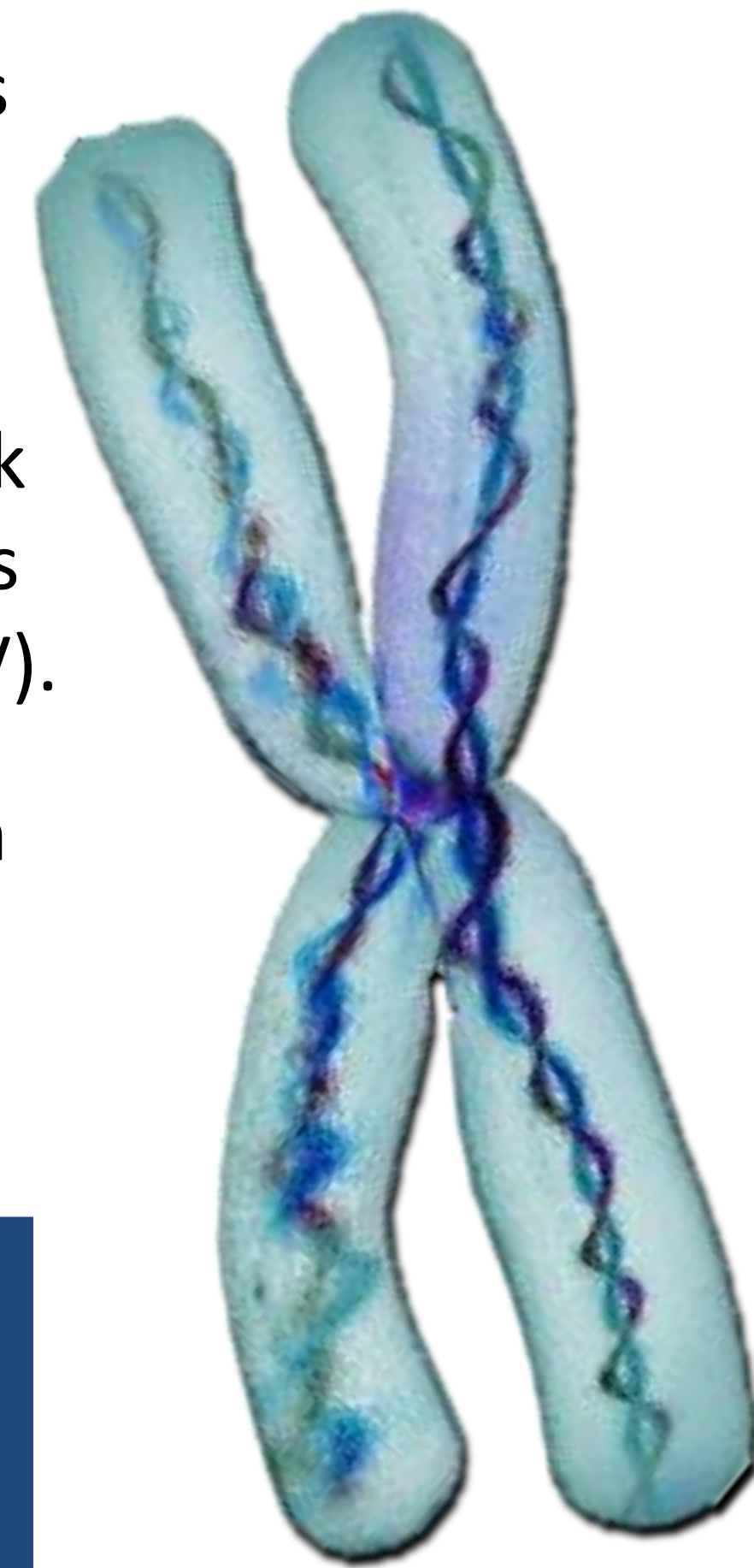
Psychiatric comorbidities in children with Autism Spectrum Disorder and Intellectual Disability

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Background

- Intellectual disability (ID) is characterised by significant limitations in cognitive functioning, adaptive behaviour, and with significant behavioural difficulties or mental health problems.
- IMAGINE-ID is a UK national cohort study exploring psychiatric risk in children with ID of known genetic aetiology with a particular focus on Copy Number Variants (CNV) and Single Nucleotide Variants (SNV).
- National UK studies of psychiatric risk estimate that 39% of British children with ID of unknown origin have mental health problems¹.
- 7.6% of British children with ID of unknown origin have an ASD¹.



STUDY AIM: To assess the prevalence of ASD in an ID cohort identified through NHS genotyping, and to contrast psychiatric comorbidities in those with and without ASD.

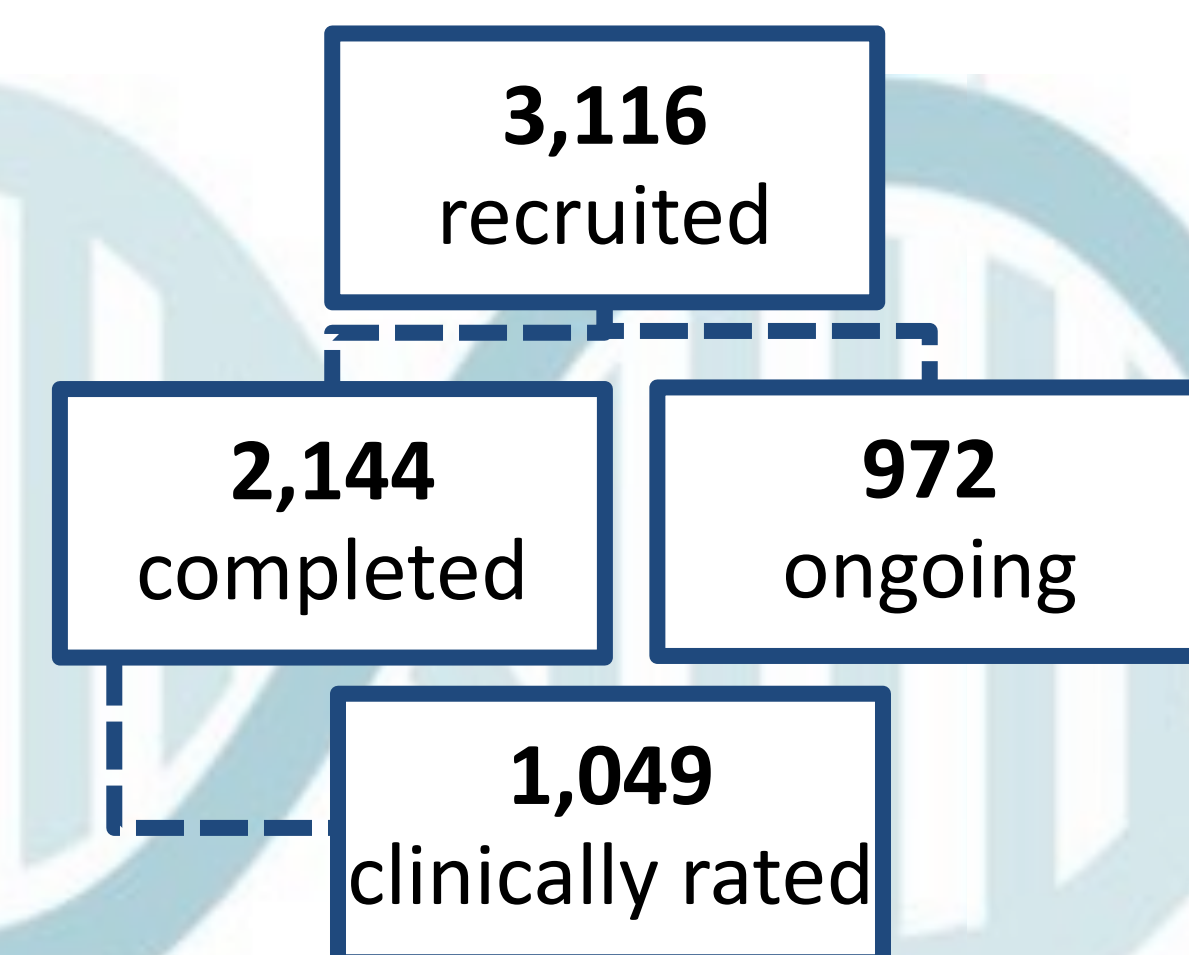
Methods

- Caregivers completed validated structured psychiatric and developmental history interviews, which have been used in UK studies of psychological wellbeing. Interviews were administered either online, over the phone or in person.

Development and Wellbeing Assessment (DAWBA)
Psychological wellbeing (parent reporting on child).

Strengths and Difficulties Questionnaire (SDQ)
Child emotional and behavioural adjustment (parent reporting on child).

Everyday Feelings Questionnaire (EFQ)
Parental emotional wellbeing (parent reporting on self).



- 3,116 children aged 4-18 years with ID of known genetic aetiology (CNV/SNV) confirmed by microarray were recruited through UK Regional Genetic Centres.
- 1,049 fully completed assessments were rated by a child psychiatrist.

References 1. Emerson, E. (2003). Prevalence of psychiatric disorders in children and adolescents with and without intellectual disability. *Journal of Intellectual Disability Research*, 47(1), 51-58.



Results

- 39% of participants met criteria for ASD.
- Mean age was 9.21 (SD=3.87, range 4-18 years), with no significant differences in age, mental age or language ability between children with and without ASD.
- There was a significant gender bias in children with ASD than without (males predominated; 62.5%, $p < 0.01$).

Diagnoses	ASD (n=411) %	Non-ASD (n=638) %	P (χ^2)
Any Anxiety Disorder	15.3	8.0	0.000**
Depression	0.5	0.3	0.341
Obsessive Compulsive Disorder	0.2	0.2	0.477
Oppositional Defiant Disorder	16.5	5.3	0.000**
Attention Deficit/Hyperactivity Disorder (ADHD)	28.2	16.5	0.000**
Tic Disorder	4.9	1.7	0.005*
Comorbid Diagnoses	44.3	26.5	0.000**

Table 1. Comparison of psychiatric diagnosis by group

Conclusions

- A high proportion of children with ID of genetic aetiology meet DSM-5 criteria for an ASD, irrespective of the specific CNV or SNV.
- Compared with children whose ID is not associated with ASD, and who are of equivalent mental age, there is an excess of specific psychiatric comorbidities, including ADHD, Oppositional Defiant Disorder, Anxiety Disorders and Tic Disorders.
- Parents of children with ID of known genetic origin that is associated with ASD have an enhanced risk of stress-related disorders of mood and feelings.

Participants with ASD were significantly more likely to meet DSM-5 criteria for an additional mental health disorder (44% vs 27%, $p < 0.001$) than those without a diagnosis of ASD.

Participants with ASD were significantly more likely to meet diagnostic criteria for ADHD, Oppositional Defiant Disorder, Anxiety Disorders and Tic Disorders (table 1).

Within-group comparisons on the basis of SDQ total scores showed that emotional and behavioural problems were significantly more severe in children with ASD than those without ($p < 0.001$).

A comparison with national UK population data showed that 41% of those with ASD had scores above the 95th centile in total SDQ score.

EFQ scores were significantly higher in caregivers of children with ASD ($p < 0.001$) than in families whose child had ID alone.