

Submitter name: Howard Edenberg
Submitted email: edenberg@iu.edu

Findings from the Alcohol Use Disorder Working Group of the Psychiatric Genetics Consortium

Howard J. Edenberg^{1,2}, Arpana Agrawal³, & Joel Gelernter⁴ & PGC-SUD members

¹Department of Medical and Molecular Genetics, Indiana University School of Medicine;

²Department of Biochemistry and Molecular Biology, Indiana University School of Medicine;

³Department of Psychiatry, Washington University School of Medicine;

⁴Department of Psychiatry, Yale School of Medicine and Veterans Affairs Connecticut Healthcare Center

Discovery of genetic variants for substance use disorders is rapidly gaining momentum. This overview of the progress made by the Psychiatric Genomics Consortium's Substance Use Disorders (PGC-SUD) Working Group will outline discoveries from the most recent GWAS of alcohol, cannabis and opioid use disorders. For alcohol, our collaboration with other groups is resulting in a rapid escalation of sample size and increasing power to detect additional novel loci, although much larger sample sizes are still needed. A recent finding is that the genetics of substance use and the genetics of substance use disorders differ, so that we cannot rely upon studies of quantity/frequency of use to illuminate the genetics of the disorders. We will also highlight discoveries from cross-disorder GWAS of AUD with schizophrenia, anorexia nervosa and insomnia, with each analysis documenting novel loci of convergent and divergent effect as well as enrichment of the covariance between the disorders. Finally, the presentation will provide a brief overview of novel findings from the broader PGC community, to illustrate the advances that are anticipated in addiction genetics in the coming years as sample sizes increase.