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The NIDA, ABCD, COGA and NESARC Biobanks: Sampled Provides a Critical Resource for Research into the Genetics and Epigenetics of Substance Abuse in Humans

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From 1999 to the present, Sampled, formerly known as RUCDR Infinite Biologics®/ Infinity BiologiX, has continuously been the federal grantee or contractor for a number of NIH institute biobanking awards including NIDA, NIAAA and NIMH. Sampled established and serves as the NIDA Center for Genetic Studies (NGC) and the biobank for the Adolescent Brain Cognitive Development (ABCD) study. While the NGC was conceived as a cell, DNA and clinical data repository designed to facilitate cost-effective sample sharing among researchers, it has surpassed that original mandate by consistently providing the latest technological services to NIH grantees. This is demonstrated by the implementation of services including cutting edge genomics (e.g., genotyping, methylation and transcriptome microarrays, next-generation sequencing including methylseq and single cells), clinical diagnostics and iPSC derivation.

To date, the NGC has received more than 100,000 samples from NIDA and NIAAA subjects, producing more than 825,000 aliquots of nucleic acids, plasma, PBMCs and other biomaterials. NGA analytical services has run and analyzed more than 60,000 samples on Smokescreen arrays, sequenced >30,000 whole exomes and > 1 million samples on Infinium and Axiom arrays. We will consider examples of how this data, available in dbGAP, has contributed to research in important areas such as opioid dependence and addiction susceptibility.

As it expands to a new 200,000 square foot facility in 2022, Sampled looks to its partnership with NIH and the future of substance abuse research with excitement, with new projects such as the Healthy Brain and Child Development (HBCD) study coming online.