

How genetics can provide more effective responses to addictive behaviours

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The contemporary understanding of substance use and misuse has been shaped by developmental, social, cultural, environmental and genetic perspectives. This complexity has been more strongly evident in model building and testing than it has in informing our prevention and intervention efforts. Actions to address addictive behaviour are still typically driven by discipline based approaches. Twin studies have documented many decades ago that both genetic and environmental influences are vital elements in a comprehensive understanding of risk in addiction. We have undertaken a series of over 30 genetic association studies explicating key underlying mechanisms of risk and how this risk may influence intervention selection and response. Our more recent epigenetic research assesses the impacts of environmental triggers in those genetically prone to disorders and offers the potential for a more integrated and cross-disciplinary response to the treatment of addiction, particularly co-morbidity.