

## **'Moderate' drinking: A toast to your health?**

Does moderate alcohol intake provide health benefits to humans? Various forms of this question have been asked for decades, if not longer, but the answer (or answers) has become increasingly qualified, complex and debated over time. Twenty years ago the epidemiological literature suggesting a protective effect from low dose alcohol on the risk of heart disease was widely accepted in the scientific community. Despite the absence of randomized controlled trials that showed evidence of reduced mortality, apparent general agreement among a vast number of observational studies led to assumptions about protective effects for cardiovascular diseases being integrated into burden of disease estimates and national drinking guidelines. Some medical practitioners and commentators have also argued that moderate drinking should be recommended as an aid to heart health for suitable candidates. In addition to the well-publicized effects of moderate alcohol use on heart disease, observational studies have produced results in support of alcohol's protective effects on more than 20 other conditions including the common cold, liver cirrhosis and dementia. But, instead of leading to firmer evidence for causality and more clearly understood causal mechanisms, the evolving evidence on low dose alcohol effects in humans has increasingly cast serious doubt on the veracity of the protective hypothesis. The once firm consensus about the causal link between alcohol and cardio-protection has come under increasing scrutiny as novel methodological advancements re-focus the alcohol research field's attention on the limitations of observational studies. New research now highlights the growing likelihood that wide-spread bias and confounding in the epidemiological literature has underpinned spurious protective associations, warranting an urgent repositioning of the status of 'moderate' alcohol use as a protective agent for health.