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## Is it Time for A More Ambitious Research Agenda for Decreasing Alcohol-related Harm Among Young Adults?

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A recent Cochrane review concluded that “there are no substantive, meaningful benefits of motivational interviewing interventions for the prevention of alcohol misuse” in young adults.<sup>1</sup> The Cochrane review authors agree with prior reviews that there are statistically significant effects in reducing alcohol misuse, but interpret the effects as “too small ... to be of relevance to policy and practice.”<sup>1</sup> In this issue of *Addiction*, Grant and colleagues question that conclusion. They point out that single-touch, low-cost brief motivational interviewing-based interventions (BIs)—if widely implemented—can have “modest yet beneficial and potentially meaningful” population-level effects.

In reviewing both the Cochrane review and the critical response, we feel that perhaps the most important limitation of the body of research on BIs in young adults is not highlighted in either report: the lack of objective outcomes. Self-reported drinking outcomes are common in alcohol BI trials,<sup>2,3</sup> and were very reasonable initial primary outcomes for these trials. However, social desirability bias is a threat to the validity of self-reported alcohol consumption after BI. By revealing to participants that researchers are interested in decreasing alcohol use, BIs could increase social desirability bias preferentially in the intervention arm at follow-up assessments. Although the Cochrane review of BIs in young adults included 9 studies that reported blood alcohol concentration (e.g. “BAC”),<sup>1</sup> those BACs were all estimated from self-report.

This limitation—lack of objective primary outcome measures—is shared by most trials of BIs in adults.<sup>2,3</sup> BI trials in adults have sometimes included objective measures—e.g. blood pressure, gamma glutamyl transferase (GGT)—and have shown changes associated with BIs. However, these significant findings were not for preplanned primary outcomes, and findings have typically been negative or limited to post hoc analyses,<sup>4,5</sup> potentially reflecting reporting and/or publication biases.

Further, the modest effects of single BIs on reported consumption should spur us on to find more effective clinical approaches to alcohol misuse among young adults. Even in adult primary care populations in whom the evidence for the efficacy of BIs may be strongest, 9 patients need to be offered a BI for 1 to resolve risky drinking.<sup>3</sup> Moreover, many young adults have alcohol use disorders (AUDs) (16% in the US),<sup>6</sup> which are unlikely to respond to a single BI, and most of these young adults will not accept referral to treatment. New

approaches are needed to engage young adults in alcohol-related care, especially for severe alcohol misuse, including AUDs.

Multi-contact BIs deserve further testing in young adults with alcohol misuse.<sup>3</sup> Of the 66 trials included in the Cochrane review, 49 consisted of a single session and only 5 included more than 2 contacts.<sup>1</sup> In contrast to the 1 in 9 adult patients with alcohol misuse who respond to a single BI, 1 in 4 respond to four sessions of BI.<sup>7</sup> Repeated BIs have been found effective in several studies of adult patients with AUDs,<sup>8–10</sup> including a large BI trial, which demonstrated changes in patient-report of hospital utilization.<sup>7</sup> In one of the earliest trials of BIs, Swedish men with elevated GGT were seen quarterly for two years with decreases in mortality at follow-up.<sup>11,12</sup> Repeated BIs over a period of months should therefore be tested in young adults, especially those with severe alcohol misuse and AUDs.

At the same time, efforts to prevent alcohol-related harm among young adults should always include population-level policies known to be effective, including restrictions on marketing and policies that increase the price of alcohol.<sup>13–15</sup> Alcohol use is price sensitive and, in general, policies that address the availability of alcohol at the population level are more effective (e.g. taxation) than approaches to addressing alcohol use on an individual level.<sup>13,15</sup>

Our interpretation of the literature is that BIs—if widely implemented—would likely impact drinking at the population level. However, there is a critical need to develop and test more effective interventions, especially repeated BIs over time. Objective outcomes, such as alcohol biomarkers, blood pressure or even high density lipoprotein cholesterol,<sup>16</sup> should be used as primary outcomes. At the same time, our public health approach to preventing alcohol-related harm among young adults should include known effective approaches, including those that decrease alcohol use by reducing the availability of alcohol.

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