

Alcohol Misuse: Screening and Behavioral Counseling Interventions in Primary Care

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This report summarizes estimates of health impact and cost-effectiveness that were created to assess the relative value of most of the clinical preventive services recommended by the United States Preventive Services Task Force (USPSTF) and the Advisory Committee on Immunization Practices (ACIP). This ranking of clinical prevention priorities is guided by the National Commission on Prevention Priorities (NCPP).

A. Introduction

The U.S. Preventive Services Task Force (USPSTF) recommends screening of adults 18 and older for alcohol misuse and providing people who are engaging in risky or hazardous behaviors with brief behavioral counseling interventions to reduce alcohol misuse (“B” recommendation).¹

This recommendation encompasses a broad spectrum of alcohol-related behaviors. Risky use may be defined as consuming more than four drinks on any day or 14 drinks per week for men, or more than 3 drinks on any day or 7 drinks per week for women.²

B. Methods

Modeling parameters for this analysis are based on the thorough treatment of this topic undertaken by Solberg et al. in “Primary Care Intervention to Reduce Alcohol Misuse Ranking Its Health Impact and Cost Effectiveness,” published in 2008.³ For this update, all costs were inflation-adjusted to 2012 U.S. dollars and no other parameters have been changed.

We refer readers to the original paper³ for full detail on the estimates. Briefly, the paper assessed the impact of screening for all adults by short questionnaire such as the CAGE or AUDIT, and brief counseling for adults whose alcohol consumption exceeds guidelines for moderate drinking. The brief counseling does not target dependent drinking, though dependent drinkers may be among those who are counseled about hazardous drinking. Estimates of the impact of brief intervention on drinking was obtained from a structured literature abstraction of 16 articles that met inclusion criteria among 101 articles examined. Additional literature was drawn upon to assess the association between hazardous drinking and disease and injury risk. The financial benefits from reducing alcohol consumption that were included in the cost-effectiveness analysis are the medical costs saved from reduced disease and injury and non-medical costs saved such as avoided legal system costs, property damage and social welfare administration (excluding transfer payments).

C. Results

The value of preventive services in the Prevention Priorities project was assessed using two measures: clinically preventable burden (CPB) as a measure of the *health impact* of a preventive service and cost-effectiveness (CE) as a measure of efficiency of the service in producing health improvement. CPB is defined here as the total quality-adjusted years of life (QALYs) that could be gained if the clinical preventive service were delivered at recommended intervals to a U.S. birth cohort of 4 million patients over the years of life for which a service was recommended. Similarly, for this study, CE is the net cost per QALY gained by offering the clinical preventive service at recommended intervals to a birth cohort over the recommended age range. Estimation methods have been previously reported.⁴

The CPB for alcohol screening and intervention for adults is 177,029. Varying the most sensitive parameters yields a range from 71,354 to 546,909 QALYs.

This intervention is cost saving in the base case, with a savings of \$330 per person. Varying the most sensitive parameters yields a CE range from a savings of \$1,873 per person to a cost of \$151,564 per QALY saved.

Cost-effectiveness estimates for the service are more sensitive to model parameters than for most other preventive services in the Prevention Priorities project. Cost-effectiveness is particular sensitive to plausible values of the effectiveness of counsel in reducing risky drinking. While Solberg et al. report that brief intervention was not cost-saving in several scenarios, it more than likely very cost-effective.

D. Limitations

Solberg et al. report limitations including lacking data on the relationship between a person's disease risk and their likelihood of adhering with the steps needed to achieve risk reduction.³ This literature-derived model was inflation-adjusted to 2012 U.S. dollars, which does not consider potential recent secular trends. Other model parameters have not been updated. Updating model parameters to reflect changes in estimates of alcohol abuse and its consequences would change the base case estimates but would be unlikely to change scoring the Prevention Priorities project. Similarly, the effectiveness of brief intervention is based on a deep literature; averaging-in effectiveness from more recent studies is expected to have a small impact on the average effect size used in the estimates. Finally, results generated by the spreadsheet model used here are subject to the broad limitations associated with any modeling work. Changes to the model structure could impact results.

References

1. U.S. Preventive Services Task Force U. Alcohol Misuse: Screening and Behavioral Counseling Interventions in Primary Care. *Recommendations* 2013; <http://www.uspreventiveservicestaskforce.org/Page/Document/UpdateSummaryFinal/alcohol-misuse-screening-and-behavioral-counseling-interventions-in-primary-care?ds=1&s=alcohol>. Accessed Nov. 17, 2015.
2. U.S. Preventive Services Task Force U. Final Recommendation Statement, Alcohol Misuse: Screening and Behavioral Counseling Interventions in Primary Care, May 2013. *Recommendations* 2013; <http://www.uspreventiveservicestaskforce.org/Page/Document/RecommendationStatementFinal/alcohol-misuse-screening-and-behavioral-counseling-interventions-in-primary-care#Pod2>. Accessed Nov. 17, 2015.
3. Solberg LI, Maciosek MV, Edwards NM. Primary care intervention to reduce alcohol misuse ranking its health impact and cost effectiveness. *Am J Prev Med.* 2008;34(2):143-152.
4. Maciosek MV, Edwards NM, Coffield AB, et al. Priorities among effective clinical preventive services methods. *Am J Prev Med.* 2006;31(1):90-96.