Alcohol's Harm to Others: Opportunities and Challenges in a Public Health Framework

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ABSTRACT. The emergent and growing body of research on alcohol's harm to others (AHTO), or secondhand effects of drinking, has important implications for prevention, intervention, and policy. Those victimized by other drinkers tend to favor effective alcohol policies more than their nonvictimized peers, but often a community's impulse will be to combat AHTO by targeting and stigmatizing individual heavy

drinkers, rather than taking a public health approach to reducing harm. Here we discuss opportunities and challenges in selecting ways of reducing AHTO. We make a case for adopting joint public health and individual approaches to reduce AHTO. (*J. Stud. Alcohol Drugs, 79,* 239–243, 2018)

IN MANY COUNTRIES, including the United States (Greenfield et al., 2009), Canada (Giesbrecht and West, 1997), Australia (Dale & Livingston, 2010; Laslett et al., 2011), New Zealand (Casswell et al., 2011), and Scandinavia (Moan et al., 2015; Ramstedt et al., 2016; Seid et al., 2015), as well as in some low- and middle-income countries (Laslett et al., 2016), studies are documenting the prevalence of a wide range of alcohol's harm to others (AHTO). These include alcohol-related harms to communities (such as noise, vandalism, and property damage), to families (such as spousal abuse and child neglect), in workplaces (such as absenteeism, coworker problems, and work-related accidents), and to friends, acquaintances, and others (such as victimization by physical and sexual assault, notably on college/ university campuses, as well as in bars and public places). This burgeoning area of research adds to extensive research traditions on a few specific types of harms to others, namely alcohol-related violence, traffic and other injuries, and fetal alcohol exposure. Here we examine how a focus on AHTOin addition to a focus on harm incurred by heavy drinkers

themselves—could help substantially reduce alcohol-related harm. We argue that integration of broad alcohol control policies together with selected individually or contextually targeted interventions would substantially reduce the burden of AHTO in societies around the world.

Harms from others' drinking are widespread, cutting across ages, genders, socioeconomic statuses, types of neighborhoods, and societies (Greenfield et al., 2009; Karriker-Jaffe & Greenfield, 2014; Laslett et al., 2011, 2017a, 2017b; Moan et al., 2015). Recent studies have quantified a broad range of impacts of AHTO on mental health and well-being (Ferris et al., 2011; Greenfield et al., 2016; Karriker-Jaffe et al., 2017; Lewis-Laietmark et al., 2017), as well as substantial financial costs to individuals, organizations, and society (Navarro et al., 2011). Highlighting the relevance of AHTO, the World Health Organization (WHO) has incorporated AHTO as a focus of concern in the global strategy on alcohol (WHO, 2010).

Reducing rates of harms from others' drinking: The diversity of possible approaches

AHTO occurs in many contexts, involving varying circumstances and different levels of severity. These harms can occur in public and private settings, and they may be within dyads or small groups, may be within subcultures and particular social contexts, or may extend to the community or larger society. From the perspective of public health advocacy, does it make sense to deal with AHTO piece by piece or more holistically?

Some harms are direct and personal: a punch in the face from a belligerent drinker, a traffic crash from someone else's drunk driving, a financial loss when a lawyer's heavy

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drinking results in a missed deadline. Often these harms trigger response at the individual level: The harm may be defined as a crime by one person against another, with the drinker admonished or punished; or it may be defined as a symptom of a disorder, with the heavy drinker invited or coerced into treatment. Accordingly, many interventions to address key AHTO such as alcohol-related violence, traffic crashes and injuries, and fetal alcohol exposure have emphasized targeted individual-level responses such as criminal punishment or treatment for heavy drinking.

Other forms of AHTO are "amenity harms" that negatively affect quality of life without such a personalized effect, such as bottles and trash in the neighborhood, loud voices in the street late at night, and boisterous intoxicated groups scaring people in the street or on public transit. Some related harms, such as fears about going to places where heavy drinkers will be present, are less tangible but still real in their effects, particularly when community life and social cohesion are weakened. These forms of AHTO are often dealt with through community planning or by local ordinances, but frequently without the alcohol dimension being explicitly taken into account. A public health approach including attention to the alcohol dimension of these problems is clearly warranted.

As we will elaborate later, many AHTO victims and the affected communities may view remedies for harms because of others' heavy drinking in moral terms and demand solutions that single out individual perpetrators and stigmatize problematic drinkers. When such an individual has repeated or egregious offenses, this may be appropriate, but, in the majority of instances, a public health response capable of more broadly reducing levels of harm may be preferable and, we argue, at least should be implemented in addition to any individually focused approach designed to reach the heaviest, most-problematic drinkers. For example, a public health approach is needed to prevent nuisances such as vandalism and noise but also more serious harms including child abuse, sexual assault, or driving while intoxicated (DWI), which are perpetrated by a minority of drinkers.

Efforts to reduce harms to others from drinking have mostly been evaluated for effectiveness in terms of specific types of harm, either to the individual (e.g., mortality and morbidity rates) or the broader society (e.g., rates of DWIs). In AHTO, alcohol's role is often conditional, with other factors also involved. For example, in traffic crashes attributable to DWI, physical environment factors (such as street lighting, road conditions, and safety barriers) as well as social factors (such as the presence of others in the vehicle) and drivers' skills and blood alcohol levels may affect whether a crash occurs. The wide variety of types of AHTO and the existence of relevant co-factors thus invite consideration of a broad spectrum of preventive measures.

There also are factors in common across AHTO and measures that potentially can affect a range of harms—no-

tably, these are measures that have more general effects on the alcohol factor. As Bruun (1971) suggested, we can think of public health approaches to preventing problems from drinking as aimed at influencing one of three "phases": during the choice to use, the amount and pattern of use, and the consequences of use. Measures aiming at a specific alcoholrelated harm will often focus quite specifically on the "phase of consequences," including factors in the linkage between drinking and the harm. However, the rates of specific AHTO also can be reduced by measures aimed more generally at the other two phases. Policies that produce changes in the occasions or patterns of use can have a broader effect across types of consequences in reducing AHTO. For instance, a measure to control drinking by convicted drunk drivers can incidentally also reduce the incidence of alcohol-related domestic violence incidents (Kilmer et al., 2013).

A public health agenda for reducing rates of AHTO might look very similar to current general agendas for reducing other harms from alcohol. Clearly, measures to hold down levels of drinking in the population (particularly rates of heavy drinking on a given occasion) are important and of demonstrated effectiveness (Babor et al., 2010). As noted above, it is also worth pursuing specific preventive measures in situations or social roles where AHTO commonly occur, such as well-crafted server intervention programs in restaurants and bars (Saltz, 1997). However, without additional controls on the supply and availability of alcohol, effects of individually targeted and context-specific efforts to reduce drinking may be quite limited. In summary, integrating population public health approaches with less-stigmatizing measures for reducing risks among individual heavy drinkers could potentially help reduce AHTO.

There have been numerous initiatives to classify and assess the impact—or potential impact—of a range of alcohol policies (see, for example, Anderson et al., 2009; Babor et al., 2010; Cook et al., 2014; Giesbrecht et al., 2016; Nelson et al., 2013; Xuan et al., 2015), but to date, there has not been an explicit focus on AHTO in these analyses. As a more holistic perspective on AHTO takes root, it remains to be seen how much commonality (vs. diversity) there will be in effective public health approaches (other than limiting supply) to preventing AHTO. We do not have clear evidence about how effective broader public health approaches or more focused programs may be for reducing a range of AHTO. More research clearly is desirable in this area.

Opportunities and challenges for public health action on harms from others' drinking

As an argument for vigorous public health action, AHTO poses both a particular opportunity and a particular challenge. Across different political persuasions, there tends to be agreement that government has a role in protecting us from damages wrought by others. As John Stuart Mill said

in his essay, *On Liberty* (1859/2001), "Whenever, in short, there is a definite damage, or a definite risk of damage, either to an individual or to the public, the case is taken out of the province of liberty, and placed in that of morality or law" (p. 75 of 2001 ed.).

Now there is potentially stronger political support for measures that can be justified as preventing or reducing AHTO than for measures where the aim is just to protect the consumer from the consequences of his or her own actions (Greenfield et al., 2014). The challenge is to get public discourse on AHTO to move beyond a purely individualized response. Harm inflicted on others tends to be regarded with moral indignation, and thus a focus on AHTO could easily lead to a dominant response of a punitive approach singling out and punishing the individual drinker. Outrage at lenient treatment of drinking drivers who killed innocent victims was thus intrinsic in the founding of Mothers Against Drunk Drivers (MADD; Reinarman, 1988), although the preventive measures eventually adopted moved beyond this. Relying primarily on approaches that target "bad apples" tends to be encouraged by alcohol industry interests; however, this deflects attention to the moral failings of the heavy drinker, rather than focusing efforts on addressing alcohol availability through effective environmental approaches and policies such as regulating density of alcohol outlets, increasing alcohol prices via taxation or minimum price strategies, and state legislation and local ordinances designed to set restrictions on excessive marketing of alcoholic beverages (Babor et al., 2010). Because levels of AHTO are empirically linked to heavy drinking by those harming—and often those being harmed as well (Ramstedt et al., 2016; Seid et al., 2015)broader public health approaches are likely to reduce the prevalence and severity of a number of types of AHTO.

One aspect of the revival of a public health approach to alcohol problem prevention in the 1970s and afterward has been a strong ethical preference for strategies that are not aimed at singling out individual heavy drinkers and coercing or persuading them to reduce intake one by one. This population-level approach reflects the reality that drinking is a social and often collective activity and also explicitly recognizes the stigmatizing burden of targeted strategies that singled out and labeled individual heavy drinkers. Thus, in arguing for alcohol control policies such as those addressing alcohol's price and availability, Bruun et al. (1975) noted that "most control strategies tend to focus on the population at large, rather than single individuals. In this they contrast with criminal-law and treatment strategies . . . which single out individuals . . . The labelling of individuals as a part of such strategies also carries social costs in that it tends to be applied to those with the least social resources to protect themselves" (p. 67).

These arguments remain important today. Indeed, they have been strengthened by the renewed emphasis now on social inequality, including health inequality. There are strong

differences by social class and marginalization in the relation between amount of drinking and levels of harm, whether to drinkers themselves or to others surrounding the drinker; resources and social status afford both insulation from harms and protection from being singled out for punishment. Although some individualized strategies for reducing AHTO, for instance by responding with myriad public drunkenness arrests, went out of favor in Anglophone countries in the 1960s and 1970s, there has been a revival of such individualized strategies in recent years (Room, 2012), including individualized bans from pubs and criminalization of drinking in public places. In some cases, individually focused measures are effective in reducing AHTO. For instance, the South Dakota experiment with "24/7 Sobriety" with "swift, certain and modest" sanctions including twice-daily breath alcohol analysis monitoring (or, in a smaller percentage of cases, ankle bracelets) to enforce abstinence for convicted drunk drivers (and some other alcohol-related offenders) reduced arrests for repeated DWI as well as reduced domestic violence incidents and arrests (Kilmer et al., 2013).

Where such results are found, there are strong arguments for applying an individually focused strategy, but careful consideration should be given to using procedures that minimize stigmatization. In the South Dakota example, offenders are able to remain in the family and generally retain their jobs after spending one day in jail for any subsequent violations.

Another challenge is that it is always going to be in the alcohol industry's interest, as noted many decades ago by Catlin (1931), to moralize drinking (for instance, with concepts such as "responsible drinking"). Similarly, it is in the alcohol industry's interest to put the responsibility on individuals for avoiding AHTO, such as through urging reduction of their own drinking or discouraging affiliation with heavy drinkers. Many victims of AHTO are not drinkers themselves, and others cannot easily break ties with people with alcohol problems (consider the situation of minor children of adults with alcohol use disorders). The public health interest lies rather in a more dispassionate view that does not rule out policies and programs addressing problematic drinkers but that gives preference to interventions that not only are broadly effective at reducing harm but also minimize social labeling and stigmatization.

Many alcohol problems are acutely felt at the local level, which often places neighborhoods and cities at the forefront for taking action (Room, 1990). When concerns about alcohol-related harm increase, communities may be able to make a strong case for enacting controls on heavy drinking, nightlife, and proliferation or concentration of alcohol outlets and drinking establishments, depending on community readiness for action (Greenfield & Jones, 1993). One opportunity for mobilization is suggested by the repeated finding in the United States that victims of AHTO voice stronger support for alcohol control policies than those not harmed, even after

accounting for many personal characteristics including their own level of drinking (Greenfield et al., 2007, 2014). There also are protective factors in neighborhoods and communities, such as social capital and volunteerism, that can reduce AHTO (Weitzman & Chen, 2005) and that offer opportunities for interventions with broader positive impacts on an area's residents and visitors.

Conclusion

In dealing seriously and specifically with AHTO, there are important ethical issues to consider. Alcohol issues are moralized to an extent that is still not true for tobacco (in comparison), and regarding AHTO, the moral stakes and moralizing currents—especially when innocent victims are affected—are even stronger. In such a territory, when a problem is publicly identified, the first political instinct is often for symbolic rather than effective responses. The alcohol industry will often seek to reinforce this instinct because it deflects attention from their product and its broad availability, extensive marketing, and low price. Thus, alcohol policy advocates and AHTO researchers need to take the moral dimension into account—and also to look beyond it—to understand and document what is going on in situations involving harm or risk of harm because of someone's drinking and to evaluate potential ways to prevent or mitigate the harm. In the absence of a clear framing of reducing AHTO as a public health objective, harms tend to be dealt with mainly through an individual approach notably in terms of providing treatment for people with alcohol problems.

Beyond this, in moving forward, we need to be open-minded and pragmatic in studying what works—as a supplement to treatment—and to point the process toward measures that are effective, while also making clear the ethical issues that may be at stake. A pragmatic and broad-ranging posture on designing public health research and intervention is needed: Although an emphasis should be placed on features of the alcohol policy environment that may reduce AHTO, effective, individually focused interventions should also be sought, with careful attention to implementation strategies that reduce stigma. AHTO may indeed prove to be a strong lever to move forward public health—oriented action on alcohol issues, but it is a lever that needs to be used with forethought and care.

References

- Anderson, P., Chisholm, D., & Fuhr, D. C. (2009). Effectiveness and cost-effectiveness of policies and programmes to reduce the harm caused by alcohol. *The Lancet*, 373, 2234–2246. doi:10.1016/S0140-6736(09)60744-3
- Babor, T., Caetano, R., Casswell, S., Edwards, G., Giesbrecht, N., Graham, K., . . . Rossow, I. (2010). Alcohol: No ordinary commodity: Research and public policy (2nd ed.). Oxford, England: Oxford University Press.

- Bruun, K. (1971) Implications of legislation relating to alcoholism and drug dependence: Government policies. In L. G. Kiloh and D. S. Bell (Eds.), 29th International Congress on Alcoholism and Drug Dependence (pp. 173–181). Australia: Butterworths.
- Bruun, K., Edwards, G., Lumio, M., Mäkelä, K., Pan, L., Popham, R. E., et
 al. (1975). Alcohol control policies in public health perspective, Vol. 25.
 Helsinki, Finland: Finnish Foundation for Alcohol Studies.
- Casswell, S., Harding, J. F., You, R. Q., & Huckle, T. (2011). Alcohol's harm to others: Self-reports from a representative sample of New Zealanders. New Zealand Medical Journal, 124, 75–84.
- Catlin, G. E. G. (1931). *Liquor control*. New York, NY: Henry Holt and Company.
- Cook, W. K., Bond, J., & Greenfield, T. K. (2014). Are alcohol policies associated with alcohol consumption in low- and middle-income countries? Addiction, 109, 1081–1090. doi:10.1111/add.12571
- Dale, C. E., & Livingston, M. J. (2010). The burden of alcohol drinking on co-workers in the Australian workplace. *Medical Journal of Australia*, 193, 138–140.
- Ferris, J. A., Laslett, A.-M., Livingston, M., Room, R., & Wilkinson, C. (2011). The impacts of others drinking on mental health. *Medical Journal of Australia*, 195, S22–S26.
- Giesbrecht, N., & West, P. (1997). Drinking patterns and drinking-related benefits, harm and victimization experiences: Reports from communitybased general population surveys. *Contemporary Drug Problems*, 24, 557–579. doi:10.1177/009145099702400307
- Giesbrecht, N., Wettlaufer, A., Simpson, S., April, N., Asbridge, M., Cukier, S., . . . Vallance, K. (2016). Strategies to reduce alcohol-related harms and costs in Canada: A comparison of provincial policies. *International Journal of Alcohol and Drug Research*, 5, 33–45. doi:10.7895/ijadr. v5i2.221
- Greenfield, T. K., & Jones, R. J. (1993). Local community characteristics and prevention strategies: The likelihood of taking action on community problems with alcohol and other drugs. In T. K. Greenfield & R. Zimmerman (Eds.), Experiences with community action projects: New research on the prevention of alcohol and other drug problems (pp. 227–236). Washington, DC: Center for Substance Abuse Prevention.
- Greenfield, T. K., Karriker-Jaffe, K. J., Giesbrecht, N., Kerr, W. C., Ye, Y., & Bond, J. (2014). Second-hand drinking may increase support for alcohol policies: New results from the 2010 National Alcohol Survey. *Drug and Alcohol Review*, 33, 259–267. doi:10.1111/dar.12131
- Greenfield, T. K., Karriker-Jaffe, K. J., Kerr, W. C., Ye, Y., & Kaplan, L. M. (2016). Those harmed by others' drinking in the US population are more depressed and distressed. *Drug and Alcohol Review*, 35, 22–29. doi:10.1111/dar.12324
- Greenfield, T. K., Ye, Y., & Giesbrecht, N. (2007). Alcohol policy opinions in the United States over a 15-year period of dynamic per capita consumption changes: Implications for today's public health practice. *Contemporary Drug Problems*, 34, 649–680. doi:10.1177/009145090703400408
- Greenfield, T. K., Ye, Y., Kerr, W., Bond, J., Rehm, J., & Giesbrecht, N. (2009). Externalities from alcohol consumption in the 2005 US National Alcohol Survey: Implications for policy. *International Journal of Environmental Research and Public Health*, 6, 3205–3224. doi:10.3390/jierph6123205
- Karriker-Jaffe, K. J., & Greenfield, T. K. (2014). Gender differences in associations of neighbourhood disadvantage with alcohol's harms to others: A cross-sectional study from the USA. *Drug and Alcohol Review*, 33, 296–303. doi:10.1111/dar.12119
- Karriker-Jaffe, K. J., Greenfield, T. K., & Kaplan, L. M. (2017). Distress and alcohol-related harms from intimates, friends, and strangers. *Journal* of Substance Use, 22, 434–441. doi:10.1080/14659891.2016.1232761
- Kilmer, B., Nicosia, N., Heaton, P., & Midgette, G. (2013). Efficacy of frequent monitoring with swift, certain, and modest sanctions for violations: Insights from South Dakota's 24/7 Sobriety Project.

- American Journal of Public Health, 103, e37-e43. doi:10.2105/AJPH.2012.300989
- Laslett, A.-M., Jiang, H., & Room, R. (2017a). Alcohol's involvement in an array of harms to intimate partners. *Drug and Alcohol Review*, 36, 72–79. doi:10.1111/dar.12435
- Laslett, A.-M., Rankin, G., Waleewong, O., Callinan, S., Hoang, H. T. M., Florenzano, R., . . . Room, R. (2017b). A multi-country study of harms to children because of others' drinking. *Journal of Studies on Alcohol* and Drugs, 78, 195–202. doi:10.15288/jsad.2017.78.195
- Laslett, A.-M., Room, R., Ferris, J., Wilkinson, C., Livingston, M., & Mugavin, J. (2011). Surveying the range and magnitude of alcohol's harm to others in Australia. *Addiction*, 106, 1603–1611. doi:10.1111/j.1360-0443.2011.03445.x
- Laslett, A.-M. L., Waleewong, O., Obot, I., Benegal, V., Hettige, S., Florenzano, R., . . . Room, R. (2016). Scoping response system management of alcohol's harm to others in lower middle income countries. *Nordic Studies on Alcohol and Drugs*, 33, 515–536. doi:10.1515/nsad-2016-0043
- Lewis-Laietmark, C., Wettlaufer, A., Shield, K. D., Giesbrecht, N., April, N., Asbridge, M., . . . Stockwell, T. (2017). The effects of alcohol-related harms to others on self-perceived mental well-being in a Canadian sample. *International Journal of Public Health*, 62, 669–678. doi:10.1007/ s00038-016-0924-7
- Mill, J. S. (2001). On Liberty. Kitchener, Ontario: Batoche Books. (Originally published 1859). Retrieved from https://socialsciences.mcmaster.ca/econ/ugcm/3ll3/mill/liberty.pdf
- Moan, I. S., Storvoll, E. E., Sundin, E., Lund, I. O., Bloomfield, K., Hope, A., . . . Kristjánsson, S. (2015). Experienced harm from other people's drinking: A comparison of Northern European countries. Substance Abuse: Research and Treatment, 9, Supplement 2, 45–57. doi:10.4137/SART.S23504
- Navarro, H. J., Doran, C. M., & Shakeshaft, A. P. (2011). Measuring costs of alcohol harm to others: A review of the literature. *Drug and Alcohol Dependence*, 114, 87–99. doi:10.1016/j.drugalcdep.2010.11.009
- Nelson, T. F., Xuan, Z., Babor, T. F., Brewer, R. D., Chaloupka, F. J., Gruenewald, P. J., Naimi, T. S. (2013). Efficacy and the strength of evi-

- dence of U.S. alcohol control policies. *American Journal of Preventive Medicine*, 45, 19–28. doi:10.1016/j.amepre.2013.03.008
- Ramstedt, M., Sundin, E., Moan, I. S., Storvoll, E. E., Lund, I. O., Bloomfield, K., . . . Tigerstedt, C. (2016). Harm experienced from the heavy drinking of family and friends in the general population: A comparative study of six Northern European countries. Substance Abuse: Research and Treatment, 9, Supplement 2, 107–118. doi:10.4137/SART.S23746
- Reinarman, C. (1988). The social construction of an alcohol problem: The case of Mothers Against Drunk Drivers and social control in the 1980s. *Theory and Society*, 17, 91–120. doi:10.1007/BF00163727
- Room, R. (1990). Alcohol problems and the city. *British Journal of Addiction*, 85, 1395–1402. doi:10.1111/j.1360-0443.1990.tb01619.x
- Room, R. (2012). Individualised control of drinkers: Back to the future? Contemporary Drug Problems, 39, 311–343. doi:10.1177/0091 45091203900207
- Saltz, R. F. (1997). Prevention where alcohol is sold and consumed: Server intervention and responsible beverage service. In M. Plant, E. Single, & T. Stockwell (Eds.), *Alcohol: Minimising the harm. What works?* (pp. 72–84). New York, NY: Free Association Books.
- Seid, A. K., Grittner, U., Greenfield, T. K., & Bloomfield, K. (2015). To cause harm and to be harmed by others: New perspectives on alcohol's harms to others. Substance Abuse: Research and Treatment, 9, Supplement 2, 13–22. doi:10.4137/SART.S23506
- Weitzman, E. R., & Chen, Y.-Y. (2005). Risk modifying effect of social capital on measures of heavy alcohol consumption, alcohol abuse, harms, and secondhand effects: National survey findings. *Journal* of Epidemiology and Community Health, 59, 303–309. doi:10.1136/ jech.2004.024711
- World Health Organization. (2010). Global strategy to reduce the harmful use of alcohol. Geneva, Switzerland: Author. Retrieved from http://www.who.int/substance_abuse/activities/gsrhua/en
- Xuan, Z., Blanchette, J., Nelson, T. F., Heeren, T., Oussayef, N., & Naimi, T. S. (2015). The alcohol policy environment and policy subgroups as predictors of binge drinking measures among US adults. *American Journal of Public Health*, 105, 816–822. doi:10.2105/AJPH.2014.302112