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The Prevention of Drugged Driving: Needs, Barriers, and Self-efficacy of Prevention Professionals

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Abstract

Driving under the influence of drugs (e.g., marijuana, prescription medications) is a major public health and safety concern. As a relatively understudied and growing problem, prevention strategies that address it are not as clear, well-tested, or evidence-based as those developed for preventing other risky behaviors such as drunk driving. Key components of a successful prevention of this harmful behavior are the efforts of practitioners working in the areas of substance abuse prevention and highway safety for whom drugged driving is likely a part, but not the sole focus, of their job. We surveyed 238 prevention professionals working in substance abuse prevention and highway safety from 46 states to understand their needs, barriers, and self-efficacy to prevent drugged driving in their communities. Most respondents reported needing training and resources to implement strategies related to drugged driving, particularly with regard to engaging youth and parents, if they are to address this problem effectively. The majority of respondents also reported low levels of self-efficacy for implementing a wide range of drugged driving prevention strategies. Our findings reveal that the professionals we need to feel prepared and efficacious to prevent drugged driving have generally low feelings of confidence in their ability to do so.

Keywords

Substance abuse prevention; Drugged driving; Impaired driving; Community coalitions; Highway safety; Driving under the influence of drugs

Introduction

Drugged driving, which includes driving under the influence of illicit drugs, prescription medications, or over-the-counter (OTC) drugs, can lead to serious and even fatal

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consequences for drivers and their passengers (Brady & Li, 2014). Drugs affect individuals' perceptions, attention, coordination, reaction time, and other cognitive skills, and can thus interfere with their ability to drive safely. For example, a meta-analysis of nine epidemiologic studies found that drivers who tested positive for marijuana or who self-reported marijuana use were more than twice as likely as those who did not to be involved in automobile crashes (Li et al., 2011). This increased risk is likely due to decreased car handling performance, increased reaction times, and impaired distance estimation abilities, among other problems (Couper & Logan, 2014).

In the 2013–2014 National Roadside Survey, 22% percent of participating drivers tested positive for either illegal, prescription, or OTC drugs (Berning, Compton, & Wochinger, 2015). While this study did not determine whether drivers were impaired due to drugs, the relatively high rates of detection of drugs, and particularly illegal drugs, in this population is cause for concern. Self-reported data from the National Survey on Drug Use and Health suggest that drivers who are 18–25 years old are most likely to drive under the influence of drugs compared to drivers in other age groups (Center for Behavioral Health Statistics and Quality, 2015). Drugged driving also plays a role in fatal car crashes in the United States. Of the 57% of fatally injured drivers who were tested for drugs, 41% were found to have detectable drugs in their systems following their fatal crash (Hedlund, 2017). About a quarter of young adults involved in fatal car crashes tested positive for drugs (NHTSA, 2010).

Need for increased attention on drugged driving

Several factors in recent years have contributed to the need for greater attention and prevention efforts regarding the problem of drugged driving including changes in state laws and policies, increasing prescription drug use, and changing attitudes about drug use.

Legal changes—The recent legalization of recreational marijuana use in several states has raised concerns about a potential increase in driving under the influence of drugs. As of April 2019, 10 states and the District of Columbia had voted to legalize marijuana for recreational use, and the use of marijuana for medical purposes has been approved in 34 states (State Medical Marijuana Laws, 2019). Driving under the influence of marijuana has increased in some states where marijuana use has been legalized (Johnson, Kelly-Baker, Voas, & Lacey, 2012). In addition, there has been a significant increase in fatal car crashes involving drivers who were under the influence of marijuana in states where marijuana use is legal (Salomonsen-Sautel, Min, Sakai, Thurstone, & Hopfer, 2014).

Over the past 10 years, impaired driving laws have also changed. These changes have occurred, in part, due to the difficulty of identifying and proving drug impaired driving, as currently defined in existing impaired driving laws (Voas, DuPont, Shea, & Talpins, 2013). Despite efforts to clarify the legal definition of drugged driving, there is little conclusive evidence as to the effectiveness of recent changes to state laws in reducing the prevalence of drugged driving (Walsh, Gier, Christopherson, & Verstraete, 2004).

Increasing prescription drug use—Another factor contributing to the increased attention about the problem of drugged driving is the exponential growth in the use of

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prescription medications in the United States, and in particular, the epidemic in the use of opioids (Schepis & McCabe, 2016). Increased opioid use may be partially fueling the increases in drug-impaired driving in the United States. One case-control study, based on data from the Fatality Analysis Reporting System, found that detection of opioids in fatally injured drivers aged 25–55 was associated with increased odds of performing an unsafe driving action that contributed to a fatal car crash (Dubois, Bedard, & Weaver, 2010).

Attitudes about drug use and drugged driving—In a climate where marijuana is becoming increasingly legal, accessible, and socially acceptable, views regarding the risks or consequences of use are also changing. Among middle and high school-aged youth, the perception of risks related to marijuana use has decreased steadily over the past 10 years (Johnston, O'Malley, Miech, Bachman, & Schulenberg, 2015). Likewise, college students report low perceptions of harm from driving under the influence of marijuana (Arterberry, et al., 2013; Davis & Sloas, 2017). In fact, some drivers believe marijuana use can improve their driving skills (Terry & Wright, 2005). Taken together, the results from these surveys suggest that drugged driving prevention efforts must contend with changes in laws, drug use, and attitudes to be effective.

Drugged driving prevention

Substance abuse prevention and highway safety professionals have begun to develop drugged driving prevention strategies. One leader in this area is the Governor's Highway Safety Association (GHSA), which has provided guidance to states regarding enforcement, policies, and practices to reduce and prevent drugged driving (Hedlund, 2017). In addition, highway safety and substance abuse prevention professional conferences (e.g. Community Anti-Drug Coalitions of America National Leadership Forum, Lifesavers National Conference on Highway Safety Priorities) have begun to include sessions and webinars on the topic of drugged driving. Thus far, most of these efforts are focused on raising awareness among substance abuse prevention and highway safety stakeholders about the problem of drugged driving and increasing their knowledge about the problem, rather than disseminating prevention strategies or increasing stakeholders' skills in drugged driving prevention. To date, there are no known evidence-based drugged driving prevention resources or programs indicating a significant gap in education and prevention related to this problem.

Prevention professionals—Substance abuse prevention professionals are a key stakeholder in the prevention of drugged driving. This group includes alcohol and drug counselors, prevention specialists, clinical supervisors, criminal justice addictions professionals, and others. These professionals work at a wide range of organizations including substance abuse and mental health services agencies, private health or mental health practices, social service organizations, public health departments, and community-based organizations that include the prevention of substance abuse in their mission. Currently, little is known about the perceived needs of prevention professionals regarding drugged driving prevention, the barriers to effective implementation of prevention activities, or their sense of self-efficacy for preventing drugged driving in their communities. We addressed these gaps by conducting a national survey of prevention professionals to help

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inform training, professional development, resource development, and a research agenda for the nascent field of drugged driving prevention.

Method

Procedure

We used two strategies to recruit a convenience sample of the target population of prevention professionals. First, we recruited participants at three CADCA (Community Anti-Drug Coalitions of America) National Leadership Forum conferences, which attract prevention professionals from across the United States. Second, we sent email invitations to participate in the survey to organizations that received new or continuing Drug-Free Communities grant awards in 2016 from the Substance Abuse and Mental Health Services Administration (SAMHSA).

All study-related activities were completed online. Participants consented to participate via an online consent form. Participants who consented received access to the survey. At the end of the survey, participants could enter their name into drawings for one of four $50 gift cards.

Participants

Substance abuse prevention professionals were the target population for this study. A total of 287 substance abuse prevention professionals consented to participate in the survey. Of these, 49 individuals did not respond to any survey questions, resulting in a final sample size of 238, representing an 83% participation rate. Not all participants chose to answer all survey questions; thus, sample sizes varied across responses to items and the sample sizes for each item are noted in the tables. Professionals from 46 states participated. All respondents were at least18 years of age or older; participants were predominantly female (85%), White (87%), and nonHispanic (93%), and most (85%) had a bachelor's or graduate degree. Most of the participants (62%) had worked in the substance abuse field for at least one year, and 26% of participants reported working in the field for over 10 years. Participants reported their job title and their open-ended responses were coded into one of seven categories: organization or general leadership (e.g., president, executive director); program, project, or coalition leadership (e.g., program or coalition coordinator, project director); mental or behavioral health provider (e.g., counselor, therapist, social worker); health care provider (e.g., registered nurse, school nurse); law enforcement (e.g., lieutenant, sheriff deputy); prevention, education, and outreach (e.g., prevention coordinator, prevention specialist, health educator); and other (e.g., volunteer, intern, retired). Most participants held positions related to prevention, education, and outreach, followed by program, project, or coalition leadership, and then organization leadership.

Measures

To learn more about prevention professionals' perceived needs for and barriers to preventing drugged driving in their communities, the authors developed all the measures included in this study through an iterative process. The content of items were informed by the Strategic Prevention Framework, a public health model that specifies five elements that guide

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community anti-drug coalitions in developing community-based public health approaches to prevention as well as the common strategies (e.g. provide information, change policy, enhance skills) of community-based coalitions to affect community change related to substance use (Community Anti-Drug Coalitions of America, 2012).

Resources needed to prevent drugged driving—Participants completed a 20-item questionnaire to assess their perceptions of the resources needed to address drugged driving in their community. Items were rated on a 3-point scale (1 = no need, 2 = need, and 3 = high need).

Training needed to prevent drugged driving—Participants responded to a 15-item questionnaire to assess their perceptions of the topics they need to be trained on to address drugged driving. Items were rated on a 3-point scale (1 = no need, 2 = need, and 3 = high need).

Perceived barriers to preventing drugged driving—Participants completed an 8-item questionnaire to assess their perceptions of the barriers to addressing drugged driving in the community. Items were rated on a 3-point scale (1 = not a barrier, 2 = somewhat a barrier, and 3 = significant barrier).

Self-efficacy for drugged driving prevention activities—Participants responded to a 12-item questionnaire to assess their self-efficacy for implementing a variety of drugged driving prevention-related activities. Items were rated on a 3-point scale (1 = not confident, 2 = somewhat confident, and 3 = very confident).

Results

Perceived resource needs for drugged driving prevention

Practitioners reported a range of needs for implementing drugged driving prevention strategies (Table 1), with over half endorsing all areas of potential needs. Nearly all practitioners indicated a need for prevention materials to engage youth and for youth-led drugged driving prevention materials. Other needs endorsed by most participants included basic information about the prevalence of drugged driving and curricula, training, or other resources specifically addressing drugged driving. Nearly all participants reported a need for news about drugged driving research; help identifying evidence-based programs to implement in communities; support in locating local, state, and national data about the prevalence of drugged driving; and fact sheets about drugged driving. A relatively smaller percentage of practitioners representing about half of the respondents reported needing assistance with data collection and interpretation as well as grant writing.

Perceived training needs for drugged driving prevention

Nearly all participants endorsed a high need for training uniquely focused on drugged driving prevention strategies (Table 2). Practitioners indicated a range of diverse training needs related to drugged driving prevention. Nearly all participants indicated a need for training on how to engage youth and parents in drugged driving prevention. In addition,

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almost all participants endorsed a need for training on the prevalence of drugged driving and how drugs impact driving skills. Other areas of training needs endorsed by most practitioners included how law enforcement detects drugged driving, how to engage older adult drivers in drugged driving prevention, how to select effective prevention and intervention strategies, and how to find sources of data about drugged driving prevalence. Relatively fewer respondents, representing slightly more than half of the sample, indicated a need for training related to finding and writing grants, collecting and interpreting survey results, or conducting a needs assessment.

Perceived barriers to effective drugged driving prevention

Nearly half of participants cited a lack of resources as a significant barrier to effectively implementing drugged driving prevention (Table 3). Fewer than half of participants endorsed lack of funding and the existence of more important priorities or issues as significant barriers. Approximately a quarter of the sample endorsed lack of buy-in from the community and lack of support from community leaders as a significant barrier.

Self-efficacy for drugged driving prevention

In general, few participants felt "very confident" about their ability to effectively implement activities related to drugged driving prevention; less than one-quarter of participants endorsed that they felt very confident about any of the prevention activities listed (Table 4). More participants felt confident about talking to adolescents and young drivers about the topic of drugged driving, followed by conducting online surveys and talking to older drivers about drugged driving. It is noteworthy that less than 10% of participants felt very confident in their ability to talk to federal policy makers or find national, state, or local data about drugged driving.

Discussion

This study provides insight into prevention professionals' perceived needs and barriers related to the topic of drugged driving prevention as well as their perceived self-efficacy for implementing drugged driving prevention strategies. Participants reported having a wide variety of needs regarding drugged driving resources and training, and indicated that the lack of resources available for drugged driving prevention was a primary barrier to action in their communities. Given the recent attention that drugged driving has received as a public health concern, it was not surprising that more than half of all participants endorsed all categories of need related to drugged driving prevention resources and training.

The issue of engaging youth in drugged driving prevention efforts was a recurring theme throughout the survey responses. Practitioners reported not feeling confident about their ability to talk to adolescents and young drivers about the topic of drugged driving, and were most eager for training and resources for engaging youth in drugged driving prevention interventions. Because motor vehicle crashes are the leading cause of death among teenagers 12–19 years of age (Miniño, 2010), drugged driving prevention strategies targeted at youth is a high priority among prevention professionals. In fact, 35% of participating community coalitions reported that their coalition efforts were specifically directed towards youth

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(CADCA, 2015). Thus, drugged driving prevention efforts are highly relevant for improving the health of adolescents and young adults.

Most practitioners reported needing support in finding evidence-based programs focused on drugged driving prevention that they could implement in their communities. This need is underscored by the fact that there are currently no programs in the National Registry of Evidence-based Programs and Practices (NREPP, 2017) devoted to drugged driving prevention. It may be possible to adapt and evaluate existing, successful programs or environmental strategies designed to prevent drunk driving or other risky health behaviors for the prevention of drugged driving. For example, peer-led prevention strategies are very popular among community-based substance abuse prevention organizations for the prevention of risky health behaviors such as substance use (Cheon, 2008), poor fitness and nutrition (Audrey et al., 2006), and HIV (Huang et al., 2008). These types of peer-led prevention programs have great promise for adaptation across interventions designed to prevent a range of negative youth outcomes and may be relevant for the prevention of drugged driving as well.

Many of the resources that participants reported needing (e.g., assistance in finding data about the prevalence of drugged driving, fact sheets, a website of information about drugged driving, and information about drugged driving laws and policies) are currently available from websites sponsored by the National Highway Traffic Safety Administration (www.nhtsa.gov/risky-driving/drugged-driving), Governor's Highway Safety Administration (www.ghsa.org/issues/drug-impaired-driving), Drugged Driving Resources (www.druggeddrivingresources.com), and CADCA Prevent Impaired Driving (www.preventimpaireddriving.org). However, prevention professionals reported being unaware of these existing resources and noted that lack of access to resources about drugged driving was the most significant barrier to implementing interventions. Strategies for raising awareness of the existence of these resources are needed.

Practitioners also reported a high need for basic knowledge and training about drugged driving prevalence, the consequences of drugged driving, and the impact of different drugs on driving skills. Not surprisingly, they also reported low perceived self-efficacy for implementing drugged driving prevention strategies, such as sufficient knowledge to talk to policy makers about the problem. Thus, there is a clear need to develop and evaluate materials on this topic. In response to the needs identified in this survey, we developed two practitioner-oriented, web- based training courses focused on teaching about drugged driving that include approaches to prevention (Stelter, Kupersmidt, Eisensmith, & Weatherholt, 2019a; Stelter, Kupersmidt, & Eisensmith, 2019b).

Strengths, limitations, and future directions

To the best of our knowledge, our study is the first to describe needs and barriers to addressing drugged driving faced by substance abuse prevention professionals, as well as their self-efficacy in implementing strategies to prevent drugged driving. A major strength of this study is the diverse geographic representation of the sample, representing almost the entire United States. This diversity in the study sample is important, given the wide range of state laws and policies that govern drug use and impaired driving. This study provides

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helpful descriptive information that may be useful for researchers, practitioners, funders, and policy-makers when allocating resources and developing materials related to the problem of drugged driving. Some limitations include the use of 3-point Likert scales which may have resulted in reduced variability in the responses and the use of a convenience sample which may limit the representativeness of our findings.

Study results provide suggestions for new directions for research, particularly for the development and evaluation of strategies to prevent drugged driving. The results also identify the need for funding for practitioners to learn about and implement evidence-based drugged driving prevention programs. Future research should address how the needs of prevention professionals may change over time, particularly given the increasing attention to drugged driving, especially in states that have recently legalized recreational marijuana. Furthermore, many factors may play a role in determining which drugged driving prevention strategies are most effective. For example, the prevalence of use of different types of drugs and driving (e.g., marijuana vs. prescription drugs) may vary by state or community over time and require customized drugged driving prevention strategies. Future research should also explore differences in patterns of drug and how practitioners' needs vary based on the drugs of concern in their communities as well as the characteristics of their communities (e.g., rural vs urban).

Conclusions

Drugged driving is an increasingly prevalent public health concern, and national advocacy groups and federal, state, and local agencies are increasingly devoting resources to address this critical public health problem. Prevention professionals have successfully led substance use prevention initiatives using a coalition-based, community-level approach (Oesterle, Hawkins, Faga, Abbott, & Catalano, 2010; Spoth, Greenberg, Bierman, & Redmond, 2004). Thus, community anti-drug coalitions could also help to prevent drugged driving, although prevention professionals face a variety of needs and barriers related to implementing drugged driving prevention strategies. Our study suggests specific resources and training that are needed, as well as barriers to overcome, to prepare prevention professionals to be effective at preventing drugged driving in their communities.

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References

Anderson DM, & Rees DI (2015). Per se drugged driving laws and traffic fatalities. International Review of Law and Economics, 42, 122–134. 10.1016/j.irle.2015.02.004

Arterberry BJ, Treloar HR, Smith AE, Martens MP, Pedersen SL, & McCarthy DM (2013). Marijuana use, driving, and related cognitions. Psychology of Addictive Behaviors, 27, 854–860. https://psycnet.apa.org/doi/10.1037/a0030877 [PubMed: 23276319]

Author Manuscript Author Manuscript Author Manuscript Author Manuscript

Audrey S, Holliday J, & Campbell R (2006). It's good to talk: Adolescent perspectives of an informal, peer-led intervention to reduce smoking. Social Science & Medicine, 63, 320–334. https://doi.org/10.10167j.socscimed.2005.12.010 [PubMed: 16459004]

Berning A, Compton R, & Wochinger K (2015). Results of the 2013–2014 National Roadside Survey of alcohol and drug use by drivers. Journal of Drug Addiction, Education, and Eradication, 11 (1). 47–54.

Brady JE, & Li G (2013). Prevalence of alcohol and other drugs in fatally injured drivers. Addiction, 108, 104–114. 10.1111/j.1360-0443.2012.03993.x [PubMed: 22725100]

Community Anti-Drug Coalitions of America. (2012). Handbook for Community Anti-Drug Coalitions. Alexandria, VA: Author.

Center for Behavioral Health Statistics and Quality. (2015). 2014 National Survey on Drug Use and Health: Detailed Tables. Substance Abuse and Mental Health Services Administration, Rockville, MD.

Cheon JW (2008). Best practices in community-based prevention for substance reduction: Towards strengths-based positive development policy. Journal of Community Psychology, 36, 761–779. 10.1002/jcop.20256

Couper FJ & Logan BK (2014). Drugs and human performance fact sheets. (Report No. DOT HS 809 725). Washington D.C.: National Highway Traffic Safety Administration.

Davis SJ, & Sloas KL (2017). Driving while high: College student beliefs and behaviors. Journal of Addictive Behaviors, Therapy & Rehabilitation, 6(1), doi: 10.4172/2324-9005.1000164

Dubois S, Bédard M, & Weaver B (2010). The association between opioid analgesics and unsafe driving actions preceding fatal crashes. Accident Analysis & Prevention, 42(1), 30–37. 10.1016/j.aap.2009.06.030 [PubMed: 19887141]

Hasin DS, Wall M, Keyes KM, Cerda M, Schulenberg J, O'Malley PM, Galea S, Pacula RL, & Feng T (2015). Medical marijuana laws and adolescent marijuana use in the United States: 1991 – 2014. The Lancet Psychiatry, 2, 601–608. 10.1016/S2215-0366(15)00217-5 [PubMed: 26303557]

Hedlund J (2017). Drug-impaired driving: A guide for what states can do. Washington D.C.: Governors Highway Safety Association Retrieved July 2018 from https://www.ghsa.org/resources/drugged-driving-2017

Huang H, Ye X, Cai Y, Shen L, Xu G, Shi R, & Jin X (2008). Study on peer-led school-based HIV/AIDS prevention among youths in a medium-sized city in China. International Journal of STD & AIDS, 19, 342–346. https://doi.org/10.1258%2Fijsa.2007.007208 [PubMed: 18482967]

Johnson MB, Kelley-Baker T, Voas RB, & Lacey JH (2012). The prevalence of cannabis-involved driving in California. Drug and Alcohol Dependence, 123(1), 105–109. 10.1016/j.drugalcdep.2011.10.023 [PubMed: 22101027]

Johnston LD, O'Malley PM, Miech RA, Bachman JG, & Schulenberg JE (2015). Monitoring the Future national survey results on drug use: 1975–2014: Overview, key findings on adolescent drug use. Ann Arbor: Institute for Social Research, The University of Michigan.

Kosterman R, Bailey JA, Guttmannova K, Jones TM, Eisenberg N, Hill KG, & Hawkins JD (2016). Marijuana legalization and parents' attitudes, use, and parenting in Washington State. Journal of Adolescent Health, 59(4), 450–456. 10.1016/j.jadohealth.2016.07.004 [PubMed: 27523977]

Li M, Brady JE, Dimaggio CJ, Lusardi AR, Tzong KY, & Li G, (2011). Marijuana use and motor vehicle crashes. Epidemiologic Reviews, 34 (1), 65–72. 10.1093/epirev/mxr017 [PubMed: 21976636]

Lipari RN, Hughes A & Bose J (2016). Driving under the influence of alcohol and illicit drugs. The CBHSQ Report: December 27, 2016. Rockville, MD: Center for Behavioral Health Statistics and Quality, Substance Abuse and Mental Health Services Administration.

Miniño AM (2010). Mortality among teenagers aged 12–19 years: United States, 1999– 2006. NCHSdata brief, no 37 Hyattsville, MD: National Center for Health Statistics.

NHTSA. (2010). Drug Involvement of Fatally Injured Drivers. Traffic Safety Facts Crash Stats. DOT HS 811 415. Washington, DC: National Highway Traffic Safety Administration http://www-nrd.nhtsa.dot.gov/Pubs/811415.pdf.

NREPP: SAMHSA'S National Registry of Evidence-based Programs and Practices (2017). Find an intervention. Retrieved July 2017 from http://nrepp.samhsa.gov/AdvancedSearch.aspx

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Oesterle S, Hawkins JD, Fagan AA, Abbott RD, & Catalano RF (2010). Testing the universality of the effects of the Communities That Care prevention system for preventing adolescent drug use and delinquency. Prevention Science, 11(4), 411–423. [PubMed: 20422289]

Office of National Drug Control Policy (2011; 2012). Drugged Driving. Retrieved July 24, 2016 from http://www.whitehouse.gov/ondcp/drugged-driving

Report of the International Narcotics Control Board for 2016 International Narcotics Control Board. Vienna, Austria: The United Nations.

Salomonsen-Sautel S, Min SJ, Sakai JT, Thurstone C, & Hopfer C (2014). Trends in fatal motor vehicle crashes before and after marijuana commercialization in Colorado. Drug and Alcohol Dependence, 140, 137–144. https://doi.org/10.10167i.drugalcdep.2014.04.008 [PubMed: 24831752]

Schepis TS, & McCabe SE (2016). Trends in older adult nonmedical prescription drug use prevalence: Results from the 2002–2003 and 2012–2013 National Survey on Drug Use and Health. Addictive Behaviors, 60, 219–222. 10.1016/j.addbeh.2016.04.020 [PubMed: 27163188]

Spoth R, Greenberg M, Bierman K, & Redmond C (2004). PROSPER community–university partnership model for public education systems: Capacity-building for evidence-based, competence-building prevention. Prevention Science, 5, 31–39. [PubMed: 15058910]

State medical marijuana laws. (2019, 4 26). Retrieved from http://www.ncsl.org/research/health/state-medical-marijuana-laws.aspx

Stelter RL, Kupersmidt JB, Eisensmith SR, & Weatherholt T (2017). Drugged driving essentials. Durham, NC: Innovation Research and Training, Inc.

Stelter RL, Kupersmidt JB, & Eisensmith SR (2017). Strategic skills for the prevention of drugged driving. Durham, NC: Innovation Research and Training, Inc.

Tefft BC, Arnold LS, & Grabowski JG (5, 2016), Prevalence of Marijuana Involvement in Fatal Crashes: Washington: 2010–2014. AAA Foundation for Traffic Safety, Washington, D.C.

Terry P, & Wright KA (2005). Self-reported driving behaviour and attitudes towards driving under the influence of cannabis among three different user groups in England. Addictive Behaviors, 30(3), 619–626. https://doi.org/10.10167j.addbeh.2004.08.007 [PubMed: 15718082]

Turnbull D, & Hodge JG (2017). Driving under the influence of marijuana laws and the public's health. Public Health and the Law, 45(2), 280–283. https://doi.org/10.1177%2F1073110517720656

Voas RB, DuPont RL, Shea CL, & Talpins SK (2013). Prescription drugs, drugged driving and per se laws. Injury Prevention, 19(3), 218–221. 10.1136/injuryprev-2012-040498 [PubMed: 23024170]

Walsh JM, Gier JJ, Christopherson AS, & Verstraete AG (2004). Drugs and driving. Traffic Injury Prevention, 5(3), 241–253. 10.1080/15389580490465292 [PubMed: 15276925]

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Table 1.

Drugged driving (DD) prevention resource needs

Resource	**% Need or High Need**
Materials to engage youth	96
News about recent DD research and findings	95
Help finding evidence-based programs to implement in their community	91
Assistance finding national, state, or local data about DD prevalence	91
Fact sheets	90
Youth-led DD prevention materials/toolkit	90
Support in policy change	90
Website with information about DD	88
Assistance finding DD prevention curricula	87
General information about DD	87
Creatives to help with campaigns (e.g., posters, slogans, pictures)	87
Support in youth-led activities	86
Web-based training/education	85
Information about DD laws and policies	83
In-person training/education	72
Assistance in developing surveys	67
Tips on how to work with law enforcement	61
Tools to conduct online surveys	55
Assistance in interpreting survey results	55
Grant-writing assistance	52

Note. Not all participants answered every question, so the *n* varies between 222–226.

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Table 2.

Practitioner drugged driving (DD) training needs

Training topic	% Need or High Need
How to engage youth in DD prevention efforts	96
How to engage parents in DD prevention efforts	96
Prevalence of DD	94
How different types of drugs can impact driving skills	94
How law enforcement detects DD	87
How to engage older drivers in DD prevention efforts	86
How to select effective prevention and intervention strategies (e.g., awareness campaign curriculum)	85
How to find national, state, and local data about DD arrests and motor vehicle accidents	85
How to use media literacy education to address DD	82
How to be an effective advocate for policy change around DD	82
How to use data to inform work in their community	71
How to work with law enforcement to address DD	67
Conducting a needs assessment	57
How to find and write grants	56
Collecting and interpreting survey results	55

Note. Not all participants answered every question, so the *n* varies between 210 and 215.

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Table 3.

Barriers to addressing drugged driving

Barrier	% Significant Barrier
Lack of resources to address drugged driving	44
Lack of funding	42
Existence of more important priorities/issues	39
Lack of effective messaging	33
Difficulty engaging youth	33
Lack of knowledge about drugged driving	31
Lack of buy-in from community	28
Lack of support from community leaders	22

Note. Not all participants answered every question, so the *n* varies between 219 and 220.

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Table 4.

Prevention professional self-efficacy for drugged driving (DD) prevention

Knowledge or skill	% Very Confident
Talking to adolescents and young drivers about the topic of DD	23
Conducting online surveys	22
Talking to older drivers about the topic of DD	17
Finding and selecting survey content	13
Talking to local policy makers on the topic of DD	12
Selecting effective DD prevention and intervention strategies	11
Knowledge of how law enforcement detects DD	10
Talking to federal policy makers on the topic of DD	10
Finding national, state, or local data about DD	9
Knowledge of enforcement of DD laws and policies	8
Knowledge about the prevalence of DD in the United States	5
Knowledge about the prevalence of DD among young drivers in the United States	5

Note. Not all participants answered every question, so the *n* varies between 216 and 220.