

Introduction: Telling A Compelling Story About Drug Prevention

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Drug abuse is a serious issue in society and is associated with numerous psychological, social, and economic problems. This handbook is about drug prevention, a scientific field that attempts to delay the onset of drug use among those who have not yet begun experimenting with drugs and to prevent the misuse or abuse of drugs among those who have already starting using them to some degree. Depending on the intervention, the target might include underage drinking or tobacco use; use of one or more of the so-called illicit drugs, such as cocaine, heroin, and nonmedical marijuana; or the inappropriate use of prescription drugs. Most of the research presented in this handbook focuses on interventions for school-age youths because evidence has shown that even modest reductions in drug use or misuse among this population can have important long-term public health benefits.

Two basic questions must be answered satisfactorily to advance the field of drug prevention most effectively. The first question involves the quality of the current evidence. Do we have credible evidence that it is possible to prevent drug use? If, and only if, we can answer this first question affirmatively is the second question relevant: How can we scale up interventions to reach as many individuals as possible?

The clear and consistent message of this handbook is an affirmative answer to the first question: Yes, there is good evidence that we can prevent drug use. Moreover, many evidence-based drug prevention approaches can at the same time also prevent

other serious personal and social problems. In other words, evidence-based drug prevention is often a win-win situation, sometimes even a triple win in terms of the positive benefits that accrue to its participants and to society in general. The answer to the second question is less emphatic but nevertheless positive in tone: Yes, we are learning what it takes to disseminate and implement evidence-based drug prevention on a wider scale to reach more people. A brief discussion of many of the issues related to these two questions follows.

CAN WE PREVENT DRUG USE?

Convincing evidence that drug use can be prevented involves demonstrating through careful and rigorous experimental evaluations that (a) it is possible to prevent drug use in the short term, (b) intervention effects last for some time, (c) program effects are meaningful in practical or clinical terms as opposed to merely being statistically significant, (d) programs achieve positive outcomes on other important indices of adjustment in addition to drug use, and (e) interventions are cost effective. Although it is not essential that programs achieve positive effects on multiple adjustment outcomes, doing so increases the inherent value of interventions and supports a widely applied theory in prevention that the judicious targeting of developmentally salient risk and protective factors should lead to several positive effects over the short and long term.

Empirical data on each of these issues are discussed in a scholarly manner throughout this handbook. For example, many well-controlled research studies have shown that reductions in the level of drug use can be substantial and of public health importance after intervention. More than a few chapters in the handbook provide substantial evidence of this significant accomplishment. In addition, evidence is increasing that effects can last for several years, that many other problems in addition to drug use can also be reduced, and that the financial benefits associated with drug prevention considerably outweigh its costs. Furthermore, the outcomes for several different types of evidence-based programs have been successfully replicated—one of the hallmarks of credible science—and these replications have been achieved not only by the initial program developers but also by independent groups working in different settings, with different ethnic populations, and sometimes in different countries and cultures. In sum, readers should be impressed with the progress made in drug prevention research over the past 25 years or so and with its current sophistication and scientific credibility.

Surveying the evidence-based programs reviewed in this volume, one sees that they share at least four common characteristics. They are (a) theory based and often draw on theories from multiple disciplines or subdisciplines to develop the specific components of intervention; (b) carefully evaluated using strong research designs, valid and reliable assessment tools, and appropriate data-analytic strategies; (c) well implemented to provide assurance that the main ingredients of the intervention are delivered to the intended audience; and, finally, (d) capable of being modified yet still remain effective in different circumstances. The latter two characteristics are related to the second broad question, which I discuss next.

CAN WE SCALE UP INTERVENTIONS TO REACH AS MANY AS POSSIBLE?

The creation of evidence-based programs matters because such interventions demonstrate a worthwhile approach to dealing with an important public health concern such as drug use. But what really matters from a public health perspective is whether

these programs can be replicated or adapted for use in multiple communities and remain effective during these new trials, so that more in the population can benefit. For example, Jonas Salk's polio vaccine was an important scientific discovery in its own right, but it assumed critical public health importance by being delivered to millions of individuals throughout the world. Because one size does not fit all, another important issue is whether different types of evidence-based programs have been developed so that those who want to mount drug prevention programs can choose among alternatives. This handbook clearly indicates that effective school-, family-, and community-based programs are available.

This handbook contains some impressive examples of how drug prevention can be effectively disseminated and implemented into new settings. For example, see the details on Life Skills Training (Chapter 10), the PROSPER model (Chapter 15), the Communities That Care approach (Chapter 19), and the Positive Parenting Program (Triple P; Chapter 13), to name only a few. Three prime features of these and several other disseminated interventions are (a) the programs can be delivered by several different types of individuals (e.g., teachers, counselors, mental health staff, health care workers, family advocates, extension agents, or various individuals involved in community coalitions); (b) the programs can be modified to suit different settings, needs, and populations and still be effective; and (c) the program developers have used successful training and consultation methods so that others with less hands-on research and evaluation experience can implement the new program with quality.

All three of these features fit nicely with findings from the multidisciplinary field of implementation science, which has expanded exponentially in breadth and depth within the past 10 to 15 years. *Implementation* has been defined as “efforts designed to get evidence-based programs or practices of known dimensions into use via effective change strategies” (Damschroder & Hagedorn, 2011, p. 195). This definition recognizes that implementation is a critical factor influencing program outcomes and that quality implementation does not occur spontaneously, but through the use of systematic methods to increase the odds that new staff will implement the program as

well as possible. As a result, multiple disciplines have contributed information on how to define and measure different aspects of implementation (e.g., fidelity, adaptation, quality of delivery); on the many factors that affect implementation, one of which is delivering sound training and ongoing consultation to new program users; and on articulating the steps and actions needed to achieve quality implementation (Durlak & DuPre, 2008; Dusenbury, Brannigan, Hansen, Walsh, & Falco, 2005; Meyers, Durlak, & Wandersman, 2012)

More research and practice needs to concentrate on effective dissemination and implementation efforts, and two additional issues currently limit the widespread use of evidence-based programs: (a) In many cases, we do not know what the active ingredients of successful programs are and (b) we need to better integrate policy, research, and practice so that these components work together to foster the adoption and careful conduct of evidence-based programs.

The contents of several chapters in this handbook indicate that some program developers have sought to examine the active ingredients (sometimes called *core components*) of their intervention to determine what is responsible for their outcomes, yet this work is not definitive and needs to continue. Identifying a program's active ingredients would increase the possibility of wider adoption and use because current programs would likely become more efficient (i.e., probably briefer and simpler), which would make them more attractive to other potential users and at the same time reduce the time, effort, and cost it takes to train new staff in their implementation.

Recognizing that the large-scale use of evidence-based programs is the joint responsibility of multiple stakeholders involved with policy, funding, administration, research, and practice is also important. Members of these groups must work collaboratively. For example, both policymakers and funders must allow sufficient time and provide sufficient resources for wise program adoption and effective program implementation; researchers need to specify and test the presumed active ingredients of their programs and develop and evaluate training and consultation services for the frontline providers of new programs; administrators must provide the necessary organizational leadership; and frontline providers need to

provide input to the other groups regarding what is effective and practical in their settings. In general, what would be extremely helpful is an ongoing infrastructure that can coordinate the efforts of these multiple stakeholders most efficiently. Steps in this direction are just beginning in the United States and elsewhere in the form of governmental subagencies whose prime purpose is to encourage the systematic adoption and implementation of evidence-based programs (Meyers et al., 2012). For example, an implementation training institute has been established in the United States (Proctor et al., 2013). We must support things of value and recognize that if prevention work of any kind is to reach more of the population who can benefit, we must devote more resources to the systematic adoption, implementation, and sustainability of successful interventions.

One additional issue mentioned by several contributors is the potential to use technology in the development and spread of drug prevention programs. In fact, I would predict that the next few years will provide multiple, creative examples of how several different types of technological strategies can advance the field of prevention (e.g., interactive Internet and computer programs, virtual reality simulations, mobile applications for smartphones). These types of technologies can have several uses, including training, mass marketing, and collecting real-time assessment data. There are challenges in evaluating technology-based interventions in terms of accurately monitoring participants' behaviors and dealing with the disparities that currently exist across populations in terms of availability and comfort with technology. For example, many teachers are probably much less familiar and at ease with certain technologies than their students. However, the learning challenges associated with the judicious application of technological advances can be overcome.

AN OVERVIEW OF THIS HANDBOOK

Critical information loses its impact unless it is well organized and presented to tell a compelling story. Novels have a beginning, then a middle portion, and then an end. Good science stories, however, have a past, present, and future because the work is never ending, always subject to critical reflection,

refinement, and continual improvement. The editor of this handbook, Lawrence M. Scheier, has involved contributors who are clearly up to the task of telling a compelling scientific story about drug prevention. This handbook informs readers about the past, present, and future of drug prevention and is divided into nine major sections. Part I includes chapters devoted to definitions and terminology (Robertson et al., Chapter 1) and a historical overview of approaches to drug prevention (Bukoski, Chapter 2). In this same vein, the authors of other chapters on specific drug prevention programs also provide information on how their particular approaches have evolved over time. Part II discusses epidemiology (Patrick and O'Malley, Chapter 3) and which theories have been particularly useful in understanding drug use and mounting effective interventions (Scheier, Chapter 4, and Sloboda, Chapter 5).

With the chapters on history, definitions, epidemiology, and theory as a useful beginning, the next four sections focus on different types of intervention. Part III contains three chapters related to programs designed to prevent conduct disorders and other externalizing problems, and they explicate how intervention for these problems is pertinent to drug use and prevention. These chapters—Chapters 6, 7 and 8—are by Boxmeyer, Lochman, Powell, and Powe; Wills, Simons, and Gibbons; and Eddy, Barkan, and Lanham, respectively.

School-based programs, which have been the most common strategy for drug prevention, are discussed in Part IV. Four evidence-based programs are discussed: Project Towards No Drug Abuse in Chapter 9, by Sussman; Life Skills Training in Chapter 10, by Botvin and Griffin; All Stars in Chapter 11, by Hansen; and Peer Group Connection in Chapter 12, by Pandina, Johnson, and Barr. All four chapters provide slightly different angles on the role of prevention (both universal and selective) and use different program modalities to achieve the same target outcome, less drug use.

Part V discusses the value and success of family intervention to prevent drug use and includes information on why family intervention is pertinent and details on various effective programs. Prinz describes the Triple P approach in Chapter 13, Horigian and Szapocznik discuss brief strategic family therapy

as an intervention to deal with adolescent behavior problems and drug use in Chapter 14, Spoth, Redmond, Mason, Schainker, and Borduin describe the development and dissemination of the PROSPER program (Chapter 15), and Dishion, Véronneau, Stormshak, and Kavanagh describe the EcoFit model (Family Check-Up) and its forerunner, the Adolescent Transition Program, in Chapter 16.

Continuing the theme that successful drug prevention can take multiple forms, the next two sections discuss approaches at the environmental and community levels. In Part VI, Chapter 17 (Saltz, Grube, & Treno) discusses large-scale environmental strategies, including social host ordinances, dram shop liability, and other policies that can affect consumption (e.g., roadside sobriety checks). The other chapters discuss issues relevant at the community level, such as policies to deter alcohol use (Chapter 18 by Lynne-Landsman & Wagenaar) and helping community-based coalitions select and implement evidence-based programs (Chapter 19 by Fagan & Hawkins). The three chapters in Part VII focus on critical components of successful media campaigns such as lessons that can be learned from the tobacco field about the importance of dealing with vested interests who may oppose prevention programs (Ibrahim, Chapter 20); considerations regarding the composition and delivery of specific messages (Harrington, Helme, & Noar, Chapter 21); and programs' general design, implementation, and evaluation (Crano, Alvaro, & Siegel, Chapter 22).

Using an appropriate design and data-analytic strategy is important, and the four chapters in Part VIII focus on several different methodological approaches. Latent variable modeling and latent class analysis are discussed by Malone and Woodlief and by Flaherty in Chapters 23 and 24, respectively. Kisbu-Sakarya, MacKinnon, and O'Rourke discuss mediational analyses in Chapter 25, and Mason, Brown, Fleming, and Haggerty discuss latent growth curve modeling in Chapter 26. All of these different approaches provide unique angles from which to examine program effects.

The last section covers issues related to the large-scale introduction and use of effective interventions (i.e., diffusion) and focuses on such topics as the adoption of evidence-based programs

(Derzon, Chapter 28) or their sustainability (Tibbits, Chapter 27) and overcoming the barriers to successful dissemination (Pas & Bradshaw, Chapter 29). The editor, Lawrence M. Scheier, concludes the volume by emphasizing some important issues discussed throughout this volume and ending with a clarion call for action. In sum, this handbook tells a compelling story about drug prevention that includes why it has always been important, where we have been, where we are now, and where we need to go to continue to make progress in reducing the prevalence and incidence of drug use.

WHO SHOULD READ THIS BOOK?

This handbook will be of benefit to a wide range of researchers, practitioners, and policymakers working in disciplines such as psychology, education, social work, health education, juvenile justice, and community organization and development. It covers an array of school-, family-, and community-based interventions for different populations and provides helpful references for those who want to further their understanding of different topics.

WHY THIS HANDBOOK IS SO VITAL AND IMPORTANT

Several features make this handbook particularly vital and important. The handbook tells a fascinating and illuminating story about the past, the present, and the future of drug prevention that includes the following eight elements:

1. The book gives due attention and importance to history, showing how past strategies of drug prevention have informed the present generation of programs and how both past and current developments provide directions for the future.
2. The book provides insight into the theoretical models that drive drug prevention efforts.
3. The book explains the scientific reasoning that program developers have consistently applied to their programs beginning from the point of initial conceptualization through subsequent implementations, evaluations, and revisions as necessary.
4. The book describes how a wide array of evaluation tools can be used to document that a program is evidence based.
5. The book offers an extensive review of the logistical, implementation, evaluation, and dissemination challenges faced and overcome by prevention scientists.
6. The book indicates how the prevention of drug use has relevance and application to other important issues such as those related to family, school, and community life and the development of other youth problems such as depression and externalizing behaviors.
7. The book is forward thinking, anticipating and outlining potentially important directions for the future of prevention science.
8. Finally, the book sheds light on the collective wisdom that has been accumulated through the activities of the contributors, who have been leaders in the field.

Although a few previous publications may include some of these features, none contains them all, making this handbook truly a unique contribution.

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