



A New D.A.R.E. Curriculum Gets Mixed Reviews

Communications activities for improving and evaluating the DARE school-based substance abuse prevention curriculum

SUMMARY

Zili Sloboda, Sc.D., and colleagues at the [University of Akron](#), Ohio, designed and evaluated *Take Charge of Your Life*, a substance abuse prevention curriculum for 7th- and 9th-grade students delivered by D.A.R.E. (Drug Abuse Resistance Education) police officers. They designed *Take Charge of Your Life* to impact students' later (high school) intention to use alcohol, tobacco and marijuana by addressing social skills and social influences ("intervention mediators") in the earlier adolescent years.

The evaluation of *Take Charge of Your Life* determined whether:

- The curriculum affected drug use by students at 11th grade
- The curriculum was delivered with fidelity to the model
- Intervention mediators—such as drug refusal skills, beliefs about drug use among peers and attitudes about substance use—affected students' later intent to use drugs and their actual drug use

Key Findings

- By 11th grade, significantly more students who participated in *Take Charge of Your Life* reported alcohol or cigarette use in the prior 30 days than did a control group of students who did not participate.
- Students who took *Take Charge of Your Life* classes and who had used marijuana at baseline in 7th grade were significantly less likely to use marijuana by 11th grade, compared with students in the control group.
- D.A.R.E. police officers delivered all of the lessons and, on average, 73 percent of the content of those lessons.
- The curriculum's positive impact on reducing marijuana use among 11th graders who had used marijuana at baseline was associated with their skill in refusing to use marijuana and their perceptions of prevalence of use among their peers.

Afterward

As a result of the findings from the study, D.A.R.E. stopped using *Take Charge of Your Life* and, in fall 2009, started using another substance abuse prevention curriculum.

Funding

RWJF funded this project with five grants totaling \$16,141,104 from November 1999 to June 2009.

THE PROBLEM

Substance abuse causes serious problems, including poor health, involvement with the criminal justice system, familial and social dysfunction and impaired educational and employment opportunities.

Substance abuse prevention efforts that could reduce or avert these harms suffer from significant limitations:

- There is no national prevention network or organizing framework to finance, organize and supervise prevention programs. According to a 2006 article published in *Substance Abuse Treatment, Prevention, and Policy*, absent a coherent infrastructure, assuring quality and disseminating promising practices are difficult.
- Programs often are not fully implemented. According to a 2002 article published in *Health Education Research*, only 19 percent of 104 school districts in 12 states were implementing evidence-based prevention curricula with fidelity.

The only national delivery system for substance abuse prevention that approximates a model infrastructure is [D.A.R.E.](#) (Drug Abuse Resistance Education). D.A.R.E. has two components essential to such an infrastructure:

- A delivery system made up of thousands of trained local law enforcement officers
- A standard, established curriculum

D.A.R.E. Overview

In D.A.R.E., specially trained police officers teach drug resistance and education classes to students. Before the RWJF grants, the D.A.R.E. curricula ran from kindergarten through 12th grade and consisted of 10 weekly classes focused on themes such as "no use," consequences of use, problem solving, self-management and social resistance skills. School districts and police departments would decide in which grades D.A.R.E. classes would be offered to students.

D.A.R.E. started in Los Angeles in 1983, a time when widespread drug use was devastating neighborhoods and overwhelming police departments. The Los Angeles

program spread quickly, and by 1989, the federal Bureau of Justice Assistance (in the Department of Justice) had established five regional centers to train police officers to teach D.A.R.E. classes.

D.A.R.E America, D.A.R.E.'s national organization, was incorporated in 1989. D.A.R.E. officials reported that by 1998, 25 million students in 300,000 U.S. schools in all 50 states attended D.A.R.E. classes taught by 33,000 police officers. Some 10 million more students in other countries also received D.A.R.E. instruction.

The federal Bureau of Justice Assistance and the U.S. Department of Education's Safe and Drug Free Schools and Communities program have been major sources of funds for D.A.R.E. State education and law enforcement agencies used these federal funds to pay for local D.A.R.E. operations, such as police officers' salaries.

Evaluations of the D.A.R.E. Curriculum: Controversy and Conflict

D.A.R.E.'s program has been evaluated several times. A 1987 report by the National Institutes of Justice indicated that D.A.R.E. improved children's knowledge, attitudes and self-reported drug use. In response to these findings, federal officials authorized additional funds for D.A.R.E.

In 1994, the Research Triangle Institute, under contract to the National Institutes of Justice, reviewed all the evidence reported on D.A.R.E. through 1992 and found that after taking D.A.R.E. classes, children had improved knowledge about drugs but did not change their attitudes or drug use. The analysis also found that prevention programs using more interactive curricula than D.A.R.E. had better outcomes. The report concluded, "D.A.R.E.'s limited influence on adolescent drug use behavior contrasts with the program's popularity and prevalence."

These findings and subsequent studies published in the late 1990s raised concerns about D.A.R.E. and received widespread media attention. Nonetheless, D.A.R.E. continued to be the only prevention program with a sustained presence in schools, and the only vehicle for delivering a curriculum to all students.

D.A.R.E.'s prospects became uncertain when federal agencies began requiring the use of evidence-based practices in prevention programs. In 2001, the Department of Education published its "List of Exemplary or Promising Drug or Violence Prevention Programs" as guidance to states seeking federal funds. D.A.R.E. was not on that list.

Questions about the effectiveness of D.A.R.E.'s curriculum and the threat of losing funds on the one hand and D.A.R.E.'s extensive reach into schools and popularity in communities on the other prompted interest in testing an evidence-based curriculum delivered through the D.A.R.E. network.

D.A.R.E. officials, researchers and federal funding agencies alike wanted any new evaluation to employ the best scientific methods, address the limitations of prior evaluations and garner support from diverse stakeholders. Specifically, they wanted a new evaluation to:

- Test a curriculum that represented current thinking about substance abuse prevention
- Test a style of teaching that represented current knowledge about teaching and learning structure
- Examine the extent to which D.A.R.E. police officers implemented the curriculum in accordance with the model

See [Appendix 1](#) for additional background information on D.A.R.E.

CONTEXT

At the time of its support for the evaluation of the D.A.R.E. curriculum, RWJF was still funding substance abuse prevention and cessation. That support has been phased out. The Vulnerable Populations team still supports some of this work as it relates to vulnerable populations only. For two reports on RWJF's work in prevention, see:

- [Program Results Topic Summary: The Environmental Approach to Preventing Substance Abuse](#)
- [Program Results Topic Summary: The Behavioral Approach to Preventing Substance Abuse](#)

THE PROJECT

Researchers conducting the Adolescent Substance Abuse Prevention Study developed and then evaluated a new universal school-based substance abuse prevention curriculum delivered by D.A.R.E. police officers to students in 7th and 9th grade.

Objectives of the study were to:

- Evaluate whether the new curriculum prevented or reduced the use of tobacco, alcohol or marijuana—that is, the substance abuse outcomes of the curriculum
- Determine whether the new curriculum was delivered with fidelity (implementation sub-study) with regard to:
 - The quality of delivery
 - The completeness of delivery of all components
 - The extent of student involvement and exposure to the components

- Examine the effect of aspects of the curriculum called "intervention mediators" on students' intent to use drugs and on their actual drug use. Intervention mediators included:
 - Social skills: Drug refusal, communication and decision-making skills
 - Social influences: Normative beliefs (i.e., students' beliefs about what their peers are doing), perceptions of consequences of substance use and attitudes toward substance use

Zili Sloboda, at the time a senior research scientist at the [Institute for Health and Social Policy](#) at the University of Akron, Ohio, directed the study. In 2009, Sloboda joined JBS International, a Maryland-based consulting firm, as director of research and development.

The Planning Phase

RWJF provided three planning grants for the project (ID#s 037809, 039223 and 040345). During the planning period, which ran from November 1999 until June 2001, Sloboda and colleagues created a new prevention curriculum for 7th and 9th graders, designed an evaluation of the curriculum and pilot tested the curriculum.

Curriculum Development

To create the curriculum, called *Take Charge of Your Life*, researchers:

- Analyzed educational objectives and activities of the existing D.A.R.E. curriculum
- Identified content, processes and teaching strategies found to be effective
- Analyzed prevention programs that the literature reported to be effective
- Held focus groups with high school administrators, 9th graders and D.A.R.E. officers who teach in high schools to provide information for the 9th-grade curriculum

Take Charge of Your Life consisted of ten 45-minute 7th-grade lessons and seven 9th-grade booster lessons. Its primary goal was "to eliminate or delay dramatically the use of tobacco, alcohol, illegal drugs, and inhalants."

Take Charge of Your Life focused on 7th- and 9th-grade students because evidence has shown that in 7th grade, students begin to consider whether to experiment with cigarettes, alcohol and marijuana and that the transition to high school in 9th grade is a critical time for student decisions about drug use.

The theory underlying *Take Charge of Your Life* holds that social skills and social influences (intervention mediators) developed in middle school and early high school affect students' intention to use substances later in high school. Thus, researchers designed *Take Charge of Your Life* to impact later high school intention to use alcohol,

tobacco and marijuana by addressing the intervention mediators in the earlier adolescent years.

Take Charge of Your Life featured three core elements:

- Demonstrating that there are personal, social and legal consequences involved in using substances, and that beliefs that "everybody does it" are not accurate
- Providing students with communication, decision-making, assertiveness and refusal skills to enable them to act on their intention not to use substances
- Teaching students via authentic problem solving, role-playing and exercises in which they explore their ideas and values about substance use with the D.A.R.E. police officer/teacher serving as a facilitator and coach

Evaluation and Pilot Test

Subsequently, Sloboda and colleagues:

- Designed a longitudinal evaluation to analyze whether students who took *Take Charge of Your Life* classes in 7th and 9th grade had better outcomes on substance use at 11th grade compared with students who did not participate in *Take Charge of Your Life* classes. See the [Methodology](#) section for details about the evaluation design.
- Pilot tested the *Take Charge of Your Life* curriculum and procedures with 460 seventh-grade students and 11 police officers in nine schools in Akron, Ohio. This included testing the consent forms, pre- and posttest surveys and the 10-week curriculum.
- Selected the regions of the country where the study would take place: the inner cities of Detroit, Houston, Los Angeles, Newark, New Orleans and St. Louis and several school districts within 50 miles of each of those cities.

Advisory Groups and Project Communications

A Curriculum Work Group composed of prevention researchers and educational curricula experts reviewed recommendations for the new curriculum. See [Appendix 2](#) for a list of members. A Design Work Group composed of experts in evaluation methodology, sampling and research design guided Sloboda in creating the research design. See [Appendix 3](#) for a list of members. The two work groups merged after the planning phase.

The study was announced at a Washington press conference on February 15, 2001. The announcement received extensive press coverage and some 400 media inquiries. Given the public and media interest in the D.A.R.E. study, in April 2001, RWJF funded [Carnevale Associates](#), a Maryland-based policy and communications firm specializing in drug and crime policy to:

- Communicate the study's purpose and design to policy-makers, law enforcement officers and government officials and keep them informed of its progress
- Protect the integrity of the study by anticipating and addressing pressures to influence the intervention or report results prematurely
- Train researchers and staff from participating sites in how to respond to media inquiries about the study
- Respond to inquiries and concerns from local police departments, schools, community groups and parents across the country

The Implementation Phase

The implementation phase of the study started in July 2001 and ran through June 2006. Students entering 7th grade in fall 2001 received either *Take Charge of Your Life* classes in 7th and 9th grade (the treatment group) or usual programming in those grades (the control group). Students starting 7th grade in 2001 were followed through the 2005–2006 school year, when they were in 11th grade.

Six full-time regional coordinators, one stationed in each city, supervised the study in that region. Part-time site managers in each region visited schools to administer and collect the surveys and address questions raised by school staff.

Researchers designed and delivered six 3-day training sessions for D.A.R.E. officers teaching the 7th-grade curriculum, and three 3-day sessions for officers teaching the 9th-grade curriculum.

Sloboda subcontracted with two health researchers to describe the organizational and community context of the study:

- Jeffrey C. Merrill, M.P.H., a substance abuse policy researcher at the Division of Addiction Psychiatry at the Robert Wood Johnson Medical School in New Brunswick, N.J., analyzed the organizational structure of D.A.R.E. and the role of the D.A.R.E. officer. See the [Bibliography](#) for information about publications from Merrill's analyses.
- David Forrest, Ph.D., an ethnographer at the University of Miami, created community case studies of selected sites. The case studies described perceptions of substance abuse in the communities and existing prevention programs. They also included factors such as poverty and crime rate and mobility of the population.

Methodology

Some 83 school clusters participated in the study. Forty-one clusters used the *Take Charge of Your Life* curriculum and 42 did not. A school cluster consisted of a high school and all of its feeder middle schools

In selecting school clusters, researchers:

- Chose only high schools that started with 9th grade. Since transition to high school is a time when adolescents consider using drugs, researchers wanted to ensure that students who took the 9th-grade *Take Charge of Your Life* class did so in high school.
- Chose only school districts with 2,500 or more students in order to be sure that the study would have a large enough pool of students.
- Sought control group clusters that did not have formal drug prevention programs as part of their curriculum in order to test *Take Charge of Your Life* versus no intervention.
- Stratified schools on a "stress index" representing poverty—based on the percentage of students eligible for free lunch and the percentage of minority students—to ensure that both low- and high-stress schools were included.

D.A.R.E. America and local police departments helped recruit school clusters. After clusters within a region agreed to participate, researchers randomly assigned them to either the treatment or control group. D.A.R.E. America and local D.A.R.E. staff ensured that clusters assigned to the treatment group had D.A.R.E. officers willing to teach the new curriculum.

Researchers trained police officers in the *Take Charge of Your Life* curriculum. Local D.A.R.E. programs paid officer salaries during training and while teaching the course.

Researchers secured consent to participate from both parents and students. Some 19,529 seventh graders enrolled in the study. Researchers administered and supervised the surveys, which students completed during class periods. Teachers and police officers were not present when surveys were completed.

Students in schools using *Take Charge of Your Life* completed self-administered surveys at seven intervals. Students attending schools not using *Take Charge of Your Life* completed the surveys at seven intervals parallel to those of the students in the treatment group:

- About one week before taking the 7th-grade course
- From 30 to 60 days after completing the 7th-grade course
- In 8th grade
- About one week before taking the 9th-grade course
- After taking the 9th-grade course
- In 10th grade

- In 11th grade

A core set of questions remained the same on all surveys. Other questions were added or changed in later surveys to reflect the developmental level of the students. Surveys covered topics such as:

- Past and current use of cigarettes, alcohol and illegal drugs
- Factors that students weigh in making decisions
- Refusal skills
- Perception of drug use among peers
- Personal attitudes about drug use
- Intent to use drugs
- Risk factors such as access to drugs
- Demographic information

The Implementation Sub-Study

In the implementation sub-study, researchers wanted to determine:

- The extent to which officers implemented the curriculum with fidelity. They:
 - Asked officers to complete an anonymous assessment after the training indicating the extent to which they were ready to teach the curriculum.
 - Observed officers teaching two lessons in 7th grade and two lessons in 9th grade (Lesson 2 and Lesson 6 in each grade). They observed each officer teaching each lesson twice.
- Whether implementation fidelity affected student scores on the intervention mediators. They analyzed student responses to survey questions regarding students':
 - Perception of drug use among their peers (normative beliefs)
 - Perception of the consequences to the brain of using drugs and the social consequences of using alcohol
 - Knowledge of resistance skills and their level of assertiveness in refusing drugs
 - Ability to make decisions about drug use

Analysis of Intervention Mediators

Researchers wanted to understand which mediators accounted for drug-use decisions made by students in 11th grade. Student surveys included questions designed to provide this perspective. For example, in the 9th-grade follow-up survey:

- Normative beliefs were measured by questions asking students how many 10th graders they believed had used tobacco, alcohol or marijuana in the past 30 days.
- Decision-making skills were measured by questions in which students were given a statement about making a decision (e.g., "Before making a decision, I think about all the things that may happen as a result of that decision") and asked to indicate how often they made decisions as described in the statement.
- Communications skills were measured by questions in which students indicated their level of agreement with statements describing their confidence in interpersonal communications (e.g., "I feel confident of what to say and do during conversations").
- Refusal skills were measured by responses to three scenarios involving the opportunity to use tobacco, alcohol or marijuana.
- Attitudes toward drug use were measured by responses to questions such as "I think it is okay for students my age to smoke cigarettes once in a while" or "I think it is okay for students to drink alcohol almost every weekend."
- Intentions to use were measured by questions asking students how likely they were to try alcohol, tobacco or marijuana in the next 12 months.

Researchers built theoretical models to analyze the role of the intervention mediators in subsequent decisions by students to use or not use drugs. They applied these models to data from 7,302 students in the control group only, in order to isolate the effects of the mediators from other effects of the *Take Charge of Your Life* curriculum.

CHALLENGES

Several challenges arose during the course of the study:

- Although attrition was anticipated and planned for, unforeseen and nonrandom attrition did occur:
 - The 2002 "No Child Left Behind" legislation made it easier for students to choose high schools other than those anticipated in the study, and many did.
 - The destruction of two New Orleans high schools after Hurricane Katrina scattered students across the nation.

Researchers conducted special analyses of attrition. They found that attrition from the study was not random and that the effect on the findings was unclear. They recommended a cautious approach to the interpretation of findings as a result.

- Researchers specified that control group school clusters should not offer formal prevention programs, but many did. Some 36.5 percent of middle schools offered formal prevention programs in 7th grade and 10 percent offered them in 9th grade. In addition, 67.5 percent of high schools offered prevention activities, although not formal programs.

See the [Bibliography](#) for information about an article describing these other prevention programs and implications for future research (Sloboda et al., *Drug and Alcohol Dependence*, 2009).

- D.A.R.E. advocates, detractors and the media all had stakes in the study, making it difficult to protect the study from pressures and to resist reporting findings prematurely. D.A.R.E. officials wanted evidence to petition the federal government to add *Take Charge of Your Life* to its list of exemplary or promising programs. Some participating communities wanted to discontinue D.A.R.E. and replace it with a program already on the federal list. Local officials needed information to justify spending money on a program that many believed "didn't work." Reporters wanted to write stories describing the study's progress.

To address this challenge, RWJF and Sloboda designated Carnevale Associates to respond to inquiries and generate information when it became available. Nancy Dudley of Carnevale Associates commented, "As the study continued for so long, I would get calls from city councils, parents or administrators saying, 'I am going to the council meeting, parents meeting, etc. and I need data.' Sometimes I'd get hundreds of calls a week."

Carnevale Associates also served as the link between researchers and D.A.R.E. America to demonstrate that the study was at arms-length from D.A.R.E. Sloboda spoke at conferences of police chiefs and others to explain the study and respond to their concerns.

FINDINGS

Analyses were conducted with data from 17,320 students: 10,028 in the treatment group and 7,292 in the control group.

Substance Use

Sloboda and colleagues reported the following substance use outcomes of the study in an [article](#) published in June 2009 in *Drug and Alcohol Dependence* (102[1]: 1–10):

- **By 11th grade, significantly more students who participated in *Take Charge of Your Life* than control group students reported alcohol or cigarette use in the prior 30 days.** There was no difference in reported marijuana use.
- **The negative effects of the curriculum on alcohol or cigarette use at 11th grade occurred mostly among White students of both genders who did not use these substances at baseline.**
- **Students who participated in *Take Charge of Your Life* and who used marijuana at baseline in 7th grade were significantly less likely to use marijuana by 11th grade, compared with students in the control group.** Researchers observed, "Such an intervention may promote discontinuation among those who are already users.... This process is likely due to the increased refusal skills and reductions in the perceptions of the normative nature of marijuana use."

Implementation Fidelity

Sloboda and colleagues reported the following finding in an [article](#) published in 2009 in *Drug and Alcohol Dependence* (102[1]: 1–10):

- **Students participating in *Take Charge of Your Life* believed the officer-instructor to be more credible than other types of instructors such as teachers.**

They reported the following findings in articles published in 2009 in *Drug and Alcohol Dependence* (102[1]: 1–10) and in 2008 in *Health Education Research* (23[4]: 689–696):

Content Coverage

- **D.A.R.E. officers delivered 100 percent of the lessons and, on average, 73 percent of the content in those lessons.** This is higher than rates found in implementation fidelity studies of other evidence-based prevention programs. (Article in *Drug and Alcohol Dependence*)
- **The median coverage of the Lesson 2 curriculum in 7th grade was 81 percent (i.e., half of the officers covered more and half covered less), whereas median coverage of Lesson 6 was 72 percent.** (Article in *Health Education Research*)
- **In 9th grade, median coverage of the Lesson 2 curriculum was 70 percent and median coverage of Lesson 6 was 78 percent.** (Article in *Health Education Research*)

Instructional Style

- **Half of the officers used the correct teaching style for at least 63 percent of activities in Lesson 2 and for at least 44 percent of activities in Lesson 6 in the 7th-grade curriculum.** (Article in *Health Education Research*)

- **Half of the officers used the correct teaching style for at least 50 percent of activities in Lesson 2 and for at least 60 percent of activities in Lesson 6 in the 9th-grade curriculum.** (Article in *Health Education Research*)
- **Higher content coverage was associated with the use of appropriate teaching style. This finding was statistically significant.** (Article in *Health Education Research*)

Implementation Fidelity and Intervention Mediators

- **The relationship between implementation fidelity and improved scores on the mediators targeted in the lessons was promising but not consistent.** (Article in *Health Education Research*)
 - Higher content coverage and teaching style were not associated with improvements in the mediators for Lesson 2 of the 7th-grade curriculum.
 - Higher content coverage and teaching style were associated with improvements in mediators (such as decision-making skills and perceived negative consequences of substance use) for Lesson 2 of the 9th-grade curriculum and Lesson 6 in both 7th and 9th grades.
 - Researchers suggested that greater adherence to curriculum content and to prescribed teaching style "appear to produce the desired impact on ... targeted mediators of the intervention."

Intervention Mediators

Sloboda reported the following findings from the analysis of intervention mediators in two articles published in 2009 in *Drug and Alcohol Dependence* (102: "The Influence of Program Mediators on Eleventh Grade Outcomes for Seventh Grade Substance Users and Nonusers" [pp. 11–18] and "Universal School-Based Substance Abuse Prevention Programs: Modeling Targeted Mediators and Outcomes for Adolescent Cigarette, Alcohol and Marijuana Use" [pp. 19–29]):

- **The curriculum's positive impact on reducing marijuana use among 11th graders who had used marijuana in 7th grade was associated with two mediators: normative beliefs and refusal skills.** The curriculum's impact on normative beliefs and refusal skills affected students' intentions not to use marijuana, which ultimately affected their marijuana use.
- **The curriculum's negative impact on alcohol and cigarette use could not be explained by any of the mediators.** Researchers were unable to identify which components of the curriculum or the context (community norms or other factors not related to the curriculum) accounted for the increased use of tobacco and alcohol.

- **Intentions to use, beliefs about peer use and attitudes toward peer use consistently show direct effects on actual use of cigarettes, alcohol and marijuana.** Normative beliefs and attitudes toward peer use also have an indirect effect in that they influence intention to use. Therefore, the combined impact of normative beliefs and attitudes toward peer use is substantial.

See the [Bibliography](#) for more information about the articles reporting findings regarding substance use, implementation fidelity and mediating variables.

Limitations

Sloboda reported the following limitations of the study:

- Researchers randomly assigned school clusters to treatment or control conditions across and not within regions because of time constraints. This meant that there were uneven distributions within regions, making it hard to understand the influence of region on findings. For example, in the New Orleans area, only two of 14 clusters were in the control group. (Report to RWJF)
- The use of active parental consent and active student assent limited access to students. Studies have shown that consent rates are lower for at-risk adolescents. (Article in *Drug and Alcohol Dependence*)
- Although fidelity to the curriculum was higher than that found in other prevention programs, it is possible that even higher fidelity would have produced larger differences, both positive and negative, between the treatment and control groups. (Article in *Drug and Alcohol Dependence*)
- In examining implementation fidelity, researchers observed only two of 10 seventh-grade lessons and two of seven 9th-grade lessons, not all of them. In addition, some of the outcomes (in particular, decision-making skills and resistance skills) were measured by only single indicators. Additional data, from observation of more classes and/or outcome measurement by multiple indicators, might have yielded different findings. (Article in *Health Education Research*)
- The study used limited measures to examine the curriculum's impact on intervention mediators. For example, the measure of perception of consequences of drug use focused exclusively on the negative effects of tobacco, alcohol and marijuana on the brain. A more comprehensive measure of consequences (e.g., social and legal consequences of use) might have yielded different results. (Article in *Drug and Alcohol Dependence*)

CONCLUSIONS

Researchers offered the following conclusions from the study in two 2009 articles published in *Drug and Alcohol Dependence*:

- "The negative impact of the program on baseline nonusers of alcohol and tobacco indicates that *Take Charge of Your Life* should not be delivered as a universal prevention intervention. ... [The approach used in *Take Charge of Your Life*] may have been beneficial only for students who may have 'tried' marijuana at baseline. However, for those with no experiences with tobacco and alcohol, the information and highly interactive lessons may increase interest in substance use."
- "Prevention curricula may need to target specific drugs. In addition to normative beliefs, perceptions of harm and refusal and decision-making skills, programs should directly target [mediators closely linked] to behavioral outcomes such as attitudes and intention."
- Prevention programming should focus on intentions to use, beliefs about peer use and attitudes toward peer use since all three factors "have the largest and most consistent overall effects" on cigarette, alcohol and marijuana use.

LESSONS LEARNED

1. **Include planning phases in research projects.** Funding to plan the study and to engage consultants allowed staff to think through the complex issues and draw from a range of expertise. It also allowed them to include D.A.R.E. staff and police officers in the planning process. (Project Director/Sloboda)
2. **Obtain consents that permit access to student school records if students change schools.** Researchers secured informed consents at the start of the study, but the consents did not apply when students changed schools. Researchers conducted a pilot study to locate students who moved or dropped out of school but found these efforts time consuming and costly. (Project Director/Sloboda)
3. **Allow adequate time to recruit schools and students.** Involving teachers and rewarding them with small gifts helped secure parental and student consents to participate in the study. (Project Director/Sloboda)
4. **Be prepared for difficulties when conducting research in schools, including considering alternative designs.** Factors such as extensive substance abuse prevention programming in control schools significantly weakened the difference between the treatment and control groups. Future school-based studies may have to rely on other research designs. (Project Director/Sloboda)

According to former RWJF Vice President Nancy Kaufman, "I would like to challenge the field [prevention research] to go beyond what it has traditionally done. Randomized controlled trials were designed to test pharmaceuticals and not to evaluate long-term behavior change strategies. If we continue to use randomized control trials in complicated settings such as these, we will continue to run into difficulties."

5. **When conducting complex studies, establish a short, clear and accurate name for the study and use that name consistently.** This study was not created to evaluate D.A.R.E.; it was designed to evaluate a curriculum delivered through the D.A.R.E. network. Nonetheless, many perceived the study as aimed at answering the question: "Does D.A.R.E. work?" A short, clear title that everyone used throughout the study might have reduced this perception. (Communications Director/Dudley)
6. **Do not announce study findings prematurely.** It was tempting to release partial and interim results from the study because so many stakeholders wanted this information. Early findings from this study were promising, but they did not hold up. Releasing those findings would have been confusing and frustrating to stakeholders and decision-makers. It is better to say nothing than to say something too early, even if well intentioned. (Communications Director/Dudley)
7. **Get explicit, signed agreements between evaluators and the officials of programs they are evaluating.** Researchers and D.A.R.E. officials had general understandings of what each would contribute and what each would expect from the other, but they did not have explicit agreements on those topics. This caused some tension and confusion when perceived expectations were not met. (Former RWJF Program Officer/Kraft)
8. **Decentralize management and supervision for studies that take place in multiple cities.** Full-time University of Akron staff worked on-site in each of the six cities. This was a good strategy as it allowed researchers to develop relationships with schools and police departments and to maintain a visible presence at the schools. The decentralized structure might have been even stronger had there been "hubs" established at universities in each city. (Former RWJF Program Officer/Kraft)
9. **Be sure that someone on the project team is skilled at media relations when a complex study is of interest to the media and the public.** When studies are expensive and complicated, it is important to have someone able to present context and findings in terms that the media can understand. This helps convey the value of the study. (Former RWJF Evaluation Officer/Cassidy)

AFTERWARD

Based on the findings that *Take Charge of Your Life* did not generally reduce drug use, D.A.R.E. America stopped using the curriculum.

D.A.R.E. and Pennsylvania State University entered into an agreement under which D.A.R.E. introduced *keepin' it REAL*, a prevention curriculum for 12- to 14-year-olds in the 2009–2010 school year. *Keepin' it REAL* is included on the federal Substance Abuse and Mental Health Services Administration National Registry of Evidence-Based Programs and Practices.

D.A.R.E. America reports that as of the end of 2008, there were 14,000 D.A.R.E. police officers teaching in 75 percent of U.S. school districts and in 43 countries around the world. In addition to its core curricula for kindergarten through 12th grade, D.A.R.E. offers specialized curricula in topics such as bullying, gangs and Internet safety.

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APPENDIX 1

Background on D.A.R.E.

D.A.R.E. Overview

In D.A.R.E., specially trained police officers teach drug resistance and education classes to kindergarten through 12th-grade students. The core D.A.R.E. curriculum consists of 10 weekly classes focused on themes such as "no use," consequences of use, problem solving, self-management and social resistance skills. School districts and police departments decide in which grades D.A.R.E. classes will be offered to students.

D.A.R.E. started in Los Angeles in 1983, a time when widespread drug use was devastating neighborhoods and overwhelming police departments. The Los Angeles program spread quickly, and by 1989, the federal Bureau of Justice Assistance had established five regional centers to train police officers to teach D.A.R.E. classes.

D.A.R.E. officials reported that by 1998, 25 million students in 300,000 U.S. schools in all 50 states had attended D.A.R.E. classes taught by 33,000 police officers. Some 10 million more students in other countries had received D.A.R.E. instruction. Beginning in 1990 and continuing through 2009, every U.S. president has proclaimed an annual "National Day of D.A.R.E." to celebrate the program.

D.A.R.E.'s extensive presence in schools is likely due to the effective infrastructure and delivery system it built over the years. D.A.R.E. America, D.A.R.E.'s national organization, was incorporated in 1989. D.A.R.E. America establishes policies regarding agreements between schools and police departments, sets training protocols, creates standards for hiring and disciplining officers and establishes procedures for dealing with student disclosures of substance use.

D.A.R.E. America also promotes communication among D.A.R.E. stakeholders, including schoolteachers and administrators, police officers and police departments, state D.A.R.E. staff and parents. Its annual D.A.R.E. Officers Association conference serves as a major training vehicle for officers and a primary forum for introducing new prevention approaches.

The federal Bureau of Justice Assistance and the Department of Education's Safe and Drug Free Schools and Communities program have been major sources of funds for D.A.R.E. State education and law enforcement agencies used these federal funds to pay for local D.A.R.E. operations such as police officer's salaries.

Evaluations of the D.A.R.E. Curriculum: Controversy and Conflict

In response to pressures from community officials seeking funds to address drug abuse and related crime, the National Institutes of Justice commissioned a study to determine

whether exposure to D.A.R.E. classes reduced drug use among students. The 1987 report of that evaluation indicated that children who received D.A.R.E. did better on measures of knowledge, attitudes and self-reported drug use than did children who did not receive the program. Federal officials then authorized additional funds for D.A.R.E.

In 1994, the Research Triangle Institute, under contract to the National Institutes of Justice, published the results of a review of all the evidence reported on D.A.R.E. through 1992. This report indicated that after taking D.A.R.E. classes, children had improved knowledge about drugs but did not change in their attitudes or drug use. The analysis also found that prevention programs using more interactive curricula than D.A.R.E. had better outcomes.

The report concluded, "D.A.R.E.'s limited influence on adolescent drug use behavior contrasts with the program's popularity and prevalence."

These findings and subsequent studies published in the late 1990s raised concerns about D.A.R.E. They also received widespread media attention. Stories questioning or attacking D.A.R.E. appeared in the *New York Times*, *Boston Globe*, *U.S. News and World Reports*, among others. Television news magazines, including 20/20, had segments about the evaluations.

Nonetheless, D.A.R.E. continued to be the only prevention program with a sustained presence in schools, and the only vehicle for delivering a curriculum to all students. D.A.R.E. also was popular with school superintendents and police departments. Their representatives credited it with promoting collaboration on a variety of projects and with fostering "community policing" models.

Carol H. Weiss, Ph.D., a Harvard University-based researcher who has studied D.A.R.E. through a project in RWJF's *Substance Abuse Policy Research Program*, observed, "D.A.R.E. is a program that enjoyed, by the late 1990s, a wide level of support from nearly every constituency except academic researchers. The majority of parents, teachers, children, principals, police officers and citizens across jurisdictions loved the program, providing a strong advocacy base. The popularity of D.A.R.E. was not lost on town politicians, educational officials or police chiefs."

D.A.R.E.'s prospects became uncertain when federal agencies began requiring the use of evidence-based practices in prevention programs. In 2001, the Department of Education published its "List of Exemplary or Promising Drug or Violence Prevention Programs" as guidance to states seeking federal funds. D.A.R.E. was not on that list.

Questions about D.A.R.E.'s curriculum and the threat of losing funds on the one hand and D.A.R.E.'s extensive reach into schools and popularity in communities on the other

prompted interest in testing an evidence-based curriculum delivered through the D.A.R.E. network.

According to former RWJF Vice President Nancy Kaufman, "There was a 'war' between researchers and practitioners about the effectiveness of D.A.R.E. We [RWJF] wanted to see if we could bring some of the most reputable prevention researchers together with D.A.R.E. officials and try to combine what research was teaching us about prevention programs with D.A.R.E.'s popularity and network."

D.A.R.E. officials, researchers and federal funding agencies alike wanted any new evaluation to employ the best scientific methods, address the limitations of prior evaluations and garner support from diverse stakeholders. Specifically, they wanted a new evaluation to:

- Test a curriculum that represented current thinking about substance abuse prevention
- Test a style of teaching that represented current knowledge about teaching and learning structure
- Examine the extent to which D.A.R.E. police officers implemented the curriculum in accordance with the model

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