

What Has Project ALERT Achieved?

Statistics and long-term survey research define Project ALERT's success. Unlike most other programs, Project ALERT has been and continues to be thoroughly tested in multi-year, multi-community studies. This scientific validation means that administrators and teachers know what the program can deliver, who it can impact, and the effort involved in making its results last. The empirical underpinnings of a drug prevention program are of paramount importance. School budgets are tighter than ever, increasing the demands made on teachers and school districts. Schools need to know that the drug prevention program they choose is backed by solid science and is nationally recognized as a gold standard.

Project ALERT buys time for youth. Every year of forestalled substance use makes teens that much more prepared and savvy when confronted with internal and external pressures to smoke cigarettes, use marijuana, drink alcohol, or use other illicit drugs. Thus, Project ALERT was developed and tested as a 14-lesson program delivered to middle school youth: 11 lessons to 7th grade youth when they are first starting to be exposed to increasing pressures and risk factors for substance use and 3 booster sessions to 8th grade youth that have already completed the curriculum in the prior year. Delivering Project ALERT to 7th and 8th grade students in middle schools as designed is important to keep with the fidelity of the program and to help better ensure that Project ALERT will deliver the effects the research studies have found on substance use outcomes.

Project ALERT is widely implemented. As of early 2017, 35,145 adult educators have completed the Project ALERT training and are certified to teach Project ALERT lessons in their school or organization. In the United States, we have educators from 19,432 different schools and organizations and Project ALERT is now used in schools in all 50 states. California, Texas, New York, Pennsylvania, Washington, Illinois, and Arizona represent the states with the most certified educators (at least 1,000 per state). More than 500 educators have been certified in Alabama, Florida, Georgia, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maryland, Michigan, Minnesota, Mississippi, Montana, New Jersey, North Carolina, Ohio, Oklahoma, and Wisconsin. We also have certified educators in several countries outside the U.S, including Canada, India, Mexico, Chile, Australia, and Japan.

Project ALERT continues its status of being recognized by the National Registry of Evidence-based Programs and Practices (NREPP) from the Substance Abuse and Mental Health Services Administration (SAMHSA). Though it was listed as a "legacy program" for the past few years (i.e., an evidence-based program that had yet to be reviewed using the new NREPP criteria established in 2014), [the program has recently been reviewed using the updated three-tier NREPP review methodology](#) (i.e., effective, promising, or ineffective for specific outcomes). This review assigned Project ALERT a "promising evidence rating" for (1) alcohol use and disorders, (2) cannabis use and disorders, (3) tobacco use and disorders, and (4) knowledge, attitudes, and beliefs about substance use, and an "ineffective evidence rating" for inhalant use and disorders. These ratings were determined based on reviews of the two original RAND randomized controlled trials of Project ALERT with 7th and 8th grade students and an independent randomized controlled trial of the program with 6th graders.

What Makes Project ALERT's Scientific Foundation So Strong?

By some estimates, more than 2,000 drug prevention curricula are found in school classrooms and resource libraries, but only a handful have undergone the kind of thorough testing that Project ALERT has. And only a small number of programs have received national recognition for their scientific soundness.

The RAND Corporation originally conceived and developed Project ALERT. A staff of behavioral research professionals with expertise in areas of substance use prevention, adolescent health, program evaluation, research methods, and implementation science designed the program, tested it for effectiveness, and currently handle all the daily operations of the program. RAND is a large, public policy research institute known for strictly adhering to independent, objective analysis. As such, RAND is committed to continued evaluation of the program to ensure that any updated curriculum meets the needs of today's youth and is tested for effectiveness.

As of 2017, there have been five randomized controlled studies of Project ALERT. Two of these evaluations were by RAND researchers, while three others were conducted by independent researchers. Randomized controlled trials represent the most rigorous intervention study design available. In such a study, some schools and students receive Project ALERT and some schools and students receive other programming (this is the control group). Outcomes related to substance use behaviors and beliefs/attitudes are evaluated over time to determine if youth who receive Project ALERT fare better on these outcomes than youth in the control groups.

In the pages that follow, we outline these five studies. We describe the study samples, methods, and general conclusions. We also provide citations for all the studies and encourage current users of Project ALERT and prospective users to read the articles themselves.

How Were the Project ALERT Studies Conducted?

Pre-release Validation Study

The Project ALERT curriculum was developed between 1984 and 1986 by RAND researchers and tested in 30 middle and junior high schools in California and Oregon, encompassing urban, suburban, and rural communities representing widely diverse socioeconomic environments. For this study, more than 6,500 7th grade students were initially surveyed to provide Project ALERT with baseline measures of substance use before the study began. More than half of these students stayed with the study, and they were surveyed again during and after the validation study ended. Based on their survey answers, students were assigned to one of three risk groups for each substance: low-risk nonusers; moderate-risk experimenters; and high-risk users.

For the validation study, students in 20 of the participating schools were assigned to receive Project ALERT's original 11-lesson curriculum: 8 lessons in 7th grade, followed by 3 booster lessons in 8th grade. Half of those students receiving Project ALERT were taught the lessons by outside health educators and half were taught by outside health educators with assistance from high school teen leaders. Students in the remaining 10 schools served as the study's control participants. They continued to receive the usual drug information programs

their schools offered.

To find out how well Project ALERT worked, RAND researchers surveyed students about their drug use and drug-related attitudes before, during, and after the 2-year study. They then compared the results from Project ALERT students with those from the control students.

The validation study showed that Project ALERT effectively prevented or reduced both cigarette and marijuana use among 8th grade students, curbing the marijuana initiation rate by 30% and keeping over 40% of the early cigarette experimenters from becoming regular smokers. However, the lessons did not help committed cigarette smokers. Also, the program's modest effects on drinking had disappeared by the end of 8th grade. By 9th grade, there were no longer any significant positive effects found among students who had received Project ALERT. That is, by 9th grade, students who had received Project ALERT in 7th and 8th grade were using cigarettes, alcohol, and marijuana at similar levels to those students who had never received Project ALERT. However, the program did show positive prevention effects on pro-drug beliefs for cigarettes and marijuana, such as intentions to use drugs in the future and resistance self-efficacy (for example, the belief one could resist using if their friends were using). Some of these effects persisted through 9th and 10th grade, but they were all but gone by 12th grade. Due to the results of this study, it was clear that some refinement to the promising program was needed.

Bell, R. M., Ellickson, P. L., & Harrison, E. R. (1993). [Do drug prevention effects persist into high school? How Project ALERT did with ninth graders](#). *Preventive Medicine*, 22(4), 463-483.

Ellickson, P. L., & Bell, R. M. (1990). [Drug prevention in junior high: A multi-site longitudinal test](#). *Science*, 247(4948), 1299-1305.

Ellickson, P. L., Bell, R. M., & McGuigan, K. (1993). [Preventing adolescent drug use: Long-term results of a junior high program](#). *American Journal of Public Health*, 83(6), 856-861.

Post-release Evaluation Study

RAND researchers used the results from the validation study to revise the Project ALERT curriculum before releasing it to schools in 1995. They added three more lessons in 7th grade aimed primarily at: 1) curbing alcohol misuse (such as binge drinking) rather than simply any drinking, 2) helping the more-confirmed smokers, 3) addressing inhalant use, and 4) involving parents.

This revised 14 lesson curriculum was then evaluated from 1997 to 1998 with more than 4,000 students in 55 middle schools in South Dakota, chosen to broaden the program's applicability to the Midwest. Students in 34 of the participating schools took part in Project ALERT, while students in the remaining 21 schools served as controls. All students were surveyed about substance use and drug-related attitudes in the fall of 7th grade before the lessons started, and in the spring of 8th grade after the lessons ended.

The results of this study not only replicated but in some areas even improved on the pre-release program's effectiveness, especially for the higher-risk early smokers and drinkers. The revised curriculum demonstrated the most pronounced effects for alcohol misuse and experience of negative substance-related consequences.

In the subsequent publications, researchers continued to look at the effects of Project ALERT. The first study, published in 2004, looked at how Project ALERT students fared compared to control students on (1) their beliefs about drug expectancies (such as positive beliefs that alcohol lets you have more fun and negative beliefs that marijuana makes you do poorly in school), (2) normative beliefs about how many other students in their school used drugs, (3) their reported self-efficacy to resist offers of substances, and (4) their expectations around future use of substances (such as whether they felt they could avoid using cigarettes if their best friend was smoking).

In all outcomes related to cigarettes, all but one outcome related to marijuana, and for half of the alcohol outcomes, there were significant positive effects of Project ALERT; students who received Project ALERT reported more drug resistant beliefs and expectancies than students who did not receive the program. This is important because the outcomes assessed were the areas targeted by the intervention and have theoretical significance for resisting the internal and external pressures teens may experience in middle school and high school. For example, Project ALERT students reported that they would be more likely to be able to resist using cigarettes and marijuana in the future if their friends were using it. This is possible because Project ALERT teaches youth to use drug refusal skills. Though not all effects were significant for marijuana and alcohol outcomes, findings all favored Project ALERT. That is, there were no negative effects of the program found where, after 18 months, control students fared better than Project ALERT students.

In a follow-up article, researchers looked at how the mechanisms targeted by the intervention—for example, resistance skills, positive and negative expectancies, normative beliefs about peers—explained any preventive effects of the intervention on actual cigarette and alcohol use at the end of 8th grade. For cigarettes, the mechanisms targeted in the intervention explained the positive effects for the program on intentions to smoke cigarettes and actual cigarette use. For example, if a student receiving Project ALERT reported ability to resist cigarette offers from peers, they were shown to have low intentions to smoke in the future and actually were less likely to have used cigarettes in the past month. For alcohol, the findings were less consistent across all areas of beliefs and self-efficacy, but the findings were small to moderate in most instances and favored Project ALERT.

Ellickson, P. L., McCaffrey, D. F., Ghosh-Dastidar, B., & Longshore, D. L. (2003). [New inroads in preventing adolescent drug use: Results from a large-scale trial of Project ALERT in middle schools](#). *American Journal of Public Health*, 93(11), 1830-1836.

Ghosh-Dastidar, B., Longshore, D. L., Ellickson, P. L., & McCaffrey, D. F. (2004). [Modifying pro-drug risk factors in adolescents: Results from Project ALERT](#). *Health Education & Behavior*, 31(3), 318-334.

Orlando, M., Ellickson, P., McCaffrey, D., & Longshore, D. (2005). [Mediation analysis of a school-based drug prevention program: Effects of Project ALERT](#). *Prevention Science*, 6(1), 35-46.

Testing a Revised Curriculum with Booster Lessons for 9th Graders: ALERT Plus

The findings from the first two randomized controlled trials of Project ALERT were promising, but researchers wanted to see stronger and lasting effects of the program. Thus, they developed a new curriculum, called ALERT Plus, for high school students in 9th grade. This additional curriculum was taught by teachers. For this study, researchers used 45 of the middle schools in South Dakota from the post-release evaluation study to test whether adding 5 lessons in high school led to more robust and sustained effects. In this study, researchers also looked at how those students who had received Project ALERT in 7th and 8th grade fared compared to control students in 9th grade (that is, one year after they had completed the full program). Researchers looked at outcomes for high-risk boys and girls. These were students who reported lifetime use of either tobacco or marijuana prior to the baseline survey they completed in 7th grade (that is, before they were randomized to receive Project ALERT or not).

Findings from this study revealed that at-risk girls who received ALERT Plus reported significantly lower rates of weekly alcohol use, weekly marijuana use, fewer alcohol consequences, and less high-risk alcohol use compared to at-risk girls in the control group. Many of the mechanisms targeted by the intervention, such as changing positive beliefs about drugs or reports of resistance self-efficacy, explained some of the positive findings of Project ALERT. However, there were no differences between at-risk boys who received ALERT Plus and at-risk boys in the control group on substance use outcomes or any of the mechanisms targeted in the intervention.

Moreover, at-risk girls and at-risk boys who had received Project ALERT only (that is, they received the 7th and 8th grade program only and not the 5 booster lessons in 9th grade) did not differ on any substance use outcomes from the control group at-risk girls and boys. This meant that the previous effects of the middle school program alone that were found among the students when they were 8th graders did not persist through 9th grade.

Longshore, D., Ellickson, P. L., McCaffrey, D. F., & St Clair, P. A. (2007). [School-based drug prevention among at-risk adolescents: Effects of ALERT Plus](#). *Health Education & Behavior*, 34(4), 651-668.

Testing Project ALERT as Delivered by Outside Program Leaders

The RAND post-release validation study, including the ALERT Plus study, utilized middle teachers (for example, health teachers, physical education teachers, science teachers) to teach Project ALERT lessons within middle school classrooms. An independent research group based out of Pennsylvania State University sought to test the effectiveness of Project ALERT when delivered to students by adult program leaders in the community –

Cooperative Extension educators. Researchers used a sample of over 1,600 7th grade students from 8 middle schools in Pennsylvania. Each school randomly assigned 7th grade classrooms to (1) Project ALERT facilitated by adult program leaders, (2) Project ALERT facilitated by adult program leaders plus teen assistants (that is, local 10th through 12th graders), or (3) control (i.e., no Project ALERT received). Participants were assessed before and after the program in 7th grade, before and after the boosters in 8th grade, and again in 9th grade.

Findings suggested that students in each of the Project ALERT conditions showed similar outcomes on past month cigarette, alcohol, or marijuana use to those students in the control condition. That is, students who received Project ALERT delivered by adult program leaders alone or with teen assistants reported similar levels of substance use behaviors compared to those students who did not receive Project ALERT.

Since Project ALERT was delivered by outside providers, study authors looked at what characteristics of Project ALERT facilitators may have influenced any positive effects observed from the program. They found that when adult leaders were more conscientious, sociable, or individuated (e.g., comfortable with public speaking), and when teen leader assistants were more sociable and individuated, students showed more positive outcomes than students in classrooms with adults and teen leaders who were low in these personal characteristics.

St Pierre, T. L., Osgood, D. W., Mincemoyer, C. C., Kaltreider, D. L., & Kauh, T. J. (2005). [Results of an independent evaluation of Project ALERT delivered in schools by Cooperative Extension](#). *Prevention Science*, 6(4), 305-317.

St Pierre, T. L., Osgood, D. W., Siennick, S. E., Kauh, T. J., & Burden, F. F. (2007). [Project ALERT with outside leaders: What leader characteristics are important for success?](#) *Prevention Science*, 8(1), 51-64.

Testing Project ALERT among 6th Grade Students

Up until this point, all the Project ALERT studies tested the program with students receiving the core lessons in 7th grade and with these same students then receiving booster lessons in 8th grade. Researchers at the Pacific Institute for Research and Evaluation set out to test if Project ALERT was effective for use with 6th grade students, with booster lessons delivered in 7th grade. They randomized 34 schools within 21 school districts in 11 states to receive either Project ALERT taught by middle school teachers or to receive the control condition. Almost 6,000 6th grade students were in the study and they were assessed in 6th grade prior to the program and again in 7th grade after receiving the booster lessons.

Findings revealed that students who received Project ALERT in 6th and 7th grade reported less likelihood of drinking alcohol in the past 30 days during an assessment after completion of the program in 7th grade. Though this was an encouraging finding, the researchers looked at seven other outcomes (that is, past month use of cigarettes, marijuana, and inhalants, as well as lifetime use of all four substances) and did not observe any significant effects of the program. This means that, apart from past month drinking, 7th grade students

who received Project ALERT were using substances at similar rates than participants who did not receive Project ALERT. By 8th grade, the effect observed for past month alcohol use was no longer present. In subsequent analyses, researchers did not observe any effects of the program on pro-drug beliefs.

Kovach Clark, H., Ringwalt, C. L., Hanley, S., & Shamblen, S. R. (2010). [Project ALERT's effects on adolescents' prodrug beliefs: A replication and extension study](#). *Health Education & Behavior, 37*(3), 357-376.

Ringwalt, C. L., Clark, H. K., Hanley, S., Shamblen, S. R., & Flewelling, R. L. (2009). [Project ALERT: A cluster randomized trial](#). *Archives of Pediatrics and Adolescent Medicine, 163*(7), 625-632.

Ringwalt, C. L., Clark, H. K., Hanley, S., Shamblen, S. R., & Flewelling, R. L. (2010). [The effects of Project ALERT one year past curriculum completion](#). *Prevention Science, 11*(2), 172-184.

Conclusion

No drug prevention program is a magic bullet, but Project ALERT stands in a unique group of programs that has been rigorously tested in multi-year and multi-community studies. This can increase confidence among those interested in using the program that it can have the intended effects. Project ALERT has reported multiple successful outcomes across five randomized controlled trials of the program by working through targeted mechanisms to 1) delay the initiation of drug use during an at-risk time among vulnerable youth and 2) reduce use for high risk students who have already started using drugs. Specific facilitator characteristics may help to explain why some youth are positively engaged with the Project ALERT curriculum while others are not. However, the long-term effectiveness of Project ALERT is not yet well established, and it is not yet clear whether the program can be effective when delivered to youth younger than 7th graders. These areas warrant further research.

We are currently seeking partnerships with schools, community groups, and other research organizations to further contribute to the solid research base that supports Project ALERT. Please contact us at projectalert@rand.org if you are interested in partnering with us on any future research efforts.