



Youth Education and Prevention Working Group Policy Brief

Executive Summary

Californians are reasonably concerned about the impact upon youth of adding marijuana to the drugs that are already legally available for adults, such as tobacco and alcohol. It is well known that marijuana use among youth has been a reality for decades. In some surveys, youth report that marijuana is more readily available and accessible than alcohol. While any marijuana use by youth is a central concern, the data show that the vast majority of youth who try marijuana only experiment with it in a limited or occasional manner. However, a minority of teens is at risk of experimenting at a very young age or engaging in more regular or more excessive use. This same demographic is also at greater risk for problems with alcohol and other substance abuse, disciplinary and other problems in school and are more likely to get caught up in the criminal justice system. These youth are the most vulnerable and in need of the best protection and assistance the state can provide. Our working group has focused on how to best protect the health and well-being of children and adolescents (especially these youth who are most at-risk) if marijuana were to be legalized, taxed and regulated for adults.

Available data (provided in greater detail in the source materials we reviewed and which are available on the BRC website) support the following conclusions:

1. Regular or heavy marijuana use at an early age can be associated with reduced educational attainment and educational development.
2. Criminal sanctions for marijuana use and possession have multiple negative impacts on youth, especially for youth of color, with regard to educational attainment and employment opportunities, while also reducing law enforcement resources for addressing more serious crime.
3. Significant improvements are needed to make drug safety education more scientifically accurate and realistic.
4. Well-designed and implemented regulations have the potential to better protect youth.
5. Sufficient funding available from marijuana tax revenue, if effectively reserved for and spent on services for youth, could close many gaps in current community-based support for at-risk youth.
6. School-based approaches such as Student Assistance Programs (SAPs) are effective in improving school retention, academic achievement and reduction of drug use.
7. Universal availability of school-based services throughout California, combined with an evidence-based approach to drug education, could become a reality under a Tax and Regulate public health approach to marijuana policy.

Some assume that marijuana use by youth will increase in California as a result of the reduced perception of its risk. This working group reviewed data from the Netherlands and other countries that have reduced or removed criminal penalties for adult marijuana use. We also looked at the numerous states that have decriminalized possession and legalized and regulated some medical marijuana use, and found insufficient evidence to support this assumption. Data indicate that California's adoption of adult medical marijuana (1996) and decriminalization of marijuana possession for personal use (2011) were not followed by increases in availability or marijuana use by youth. However, as a commercial industry develops there are risks of targeted advertising similar to prior tobacco campaigns, and this should be taken into account in planning regulations.

For this report, our working assumption is that "adults" are defined as those 21 years and over. This is consistent with the four states (Alaska, Colorado, Oregon and Washington) that have legalized recreational marijuana use by adults. This leaves basic questions about how to deal with recreational marijuana use by younger individuals. We analyzed policy options with an eye toward delaying the onset of marijuana until adulthood, and reducing marijuana-related harms. We also considered the unintended detrimental impacts of any criminal justice and school disciplinary sanctions for youth involved with marijuana. Under adult legalization, care must be taken to ensure that any responses to youth marijuana use are not unduly punitive, for the following reasons:

- Youth who are arrested become defined and treated as criminals, often permanently;
- Criminal arrests initiate youth into institutional cultures, such as probation and juvenile hall, which can produce psychological and re-entry problems;
- Racial disparities in law enforcement have detrimentally impacted minority communities;
- Ineligibility for federal school loans reduces educational opportunities;
- School expulsions and suspensions reduce supervision and remediation;
- Pre-employment screening of legal problems reduces job opportunities;
- Fines and attorney's fees place disproportionate burdens on the poor; and
- Immigration/naturalization problems are increased;

The data we have reviewed indicates that prevention strategies will be effective to the extent they are able to:

- Provide honest, science-based information in a non-judgmental and non-punitive setting;
- Prioritize safety and delay use through personal responsibility and knowledge; and
- Encourage abstinence, but also recognize the importance of moderation, self regulation, and harm reduction for those young people who will not abstain completely.

Many young people currently use marijuana under current legal prohibitions, so the standard for a new approach is not zero use, but delayed use and less use than is now occurring. Strict regulation and taxation of the marijuana industry, with protection of youth as its primary goal, could reduce availability from unregulated sources by significantly curtailing the illicit market, while earmarking tax revenues from legal sales to increase funding that would mitigate educational harms associated with adolescent marijuana use. Potential regulatory controls that would benefit youth (some of which, such as accurate labeling, would also aid adult users) include:

- Strictly enforcing an age 21-year marijuana distribution and possession law;
- Strictly limiting the number, type, location, and sales practices of marijuana retail outlets;

- Limiting sale of products that are particularly attractive to young people, such as edibles that look like candy;
- Restricting marketing and advertising practices that appeal to youth;
- Establishing standards for labeling, potency, purity and total dose; and
- Developing *noncriminal* sanctions (such as infraction “fix-it tickets” requiring participation in education or Student Assistance Programs) for individuals under 21.

Although all of the consequences of adopting a tax and regulate policy cannot be anticipated at this time, the data the YEP working group has reviewed suggest that tax revenues dedicated to increase support services for at-risk youth would be beneficial. Those drafting a ballot initiative, legislation and subsequent regulations should strongly consider (a) adopting rules designed to protect youth, consistently enforced, (b) prioritizing sufficient tax resources for youth services, both for youth who are not in school, and to create and maintain school-based services such as Student Assistance Programs in high schools, and (c) adopting a public health approach to youth marijuana use.

Marijuana tax revenues could help improve school retention and performance if sufficient funds are reserved to create and maintain school-based programs, e.g., Student Assistance Programs (SAPs), in high schools. SAPs emphasize learning skills, remediate academic performance, improve school climate and school retention, and promote peer group interventions, family engagement and reduced drug use. The data this working group reviewed indicate that SAPs using a three-tiered (Institute of Medicine) approach to prevention are effective tools that could be employed to further these goals, if sufficient and stable funding is provided. History suggests that unless the initiative or implementing regulations specify a mechanism for ensuring stable funding over time, there is a danger that the level of funding necessary for effectively sustaining programs such as SAPs will not be maintained.

Any community or school programs funded for this purpose should be evidence-based and evaluated for effectiveness. Research will allow policy-makers to assess the effectiveness of the regulatory system at reducing age of onset, regular use, and access to marijuana. Long-term outcomes studies by California universities and research institutes will allow evaluation of SAPs and similar programs funded by tax revenue to measure impact upon school performance, retention and dropout rates, use of marijuana and other drug/alcohol use among students.

School districts disproportionately impacted by high dropout rates could have preferential funding for student support and treatment services. Tax revenues could also be directed toward support services for youth under 21 impacted by marijuana use who are no longer in school and for clinical care for disadvantaged and uninsured youth suffering the most severe end of the cannabis use disorder spectrum.

A system that regulates, controls, and taxes marijuana has the potential to reduce youth access to marijuana, provide effective prevention, improve drug education, mitigate current harms and improve school retention and performance if adequate regulations are written (and strictly enforced) to protect youth, and if sufficient funding from marijuana tax revenue is committed to school-based services.

Invitation for Public Comment and Feedback

This policy brief of the Youth Education and Prevention Working Group is intended to stimulate further dialogue on these important issues. In addition, the June 3rd Public Forum of the Blue

Ribbon Commission will consider what tax and regulatory policies can best further the goal of limiting youth access to marijuana. We invite you to submit further comments and feedback (via email at info@safeandsmartpolicy.org) on the topics contained in this paper or other related issues:

- Are there points raised in this paper with which you disagree? If so, why?
- What role can peers, parents, families, and communities play in delaying and reducing youth use of marijuana?
- What role can schools, public health and law enforcement entities play in limiting youth access and responding to youth who do use marijuana?
- What tax policies and regulations could help limit youth access to marijuana?
- What treatment and responses are most effective for youth who are regular and heavy users of marijuana?

Data and Analysis

Public Health Concerns

Youth are one of the groups most at risk for experiencing harms associated with regular marijuana use, but California's current enforcement-oriented marijuana policy is failing to protect them. Marijuana is readily available to youth (73% of California's 11th graders say marijuana is "fairly" or "very easy" to obtain). Despite easy access to marijuana, however, our youth have only limited access to quality drug education, counseling or treatment when needed.

Lifetime prevalence rates exaggerate the risk of addiction for youth, since the majority of lifetime users never become regular or heavy users. Concern should focus on the rate of regular use (10-19 days/mo.) and heavy use (at least 20 days/mo.) among youth. The California Healthy Kids Survey reports that 2-3% of California high school students are regular users and another 7-8% are heavy users, which translates into 48,500 and 131,000 respectively (out of a total student population of nearly 2 million). It is impossible to accurately predict whether these numbers are likely to increase or decrease under a new tightly regulated adult recreational market. Nonetheless, these data, about youth use under the current unregulated system, are relevant to determining the funding necessary to fully support services for youth most likely to be detrimentally impacted by marijuana use.

The YEP Working Group has reviewed scores of research studies finding associations between regular and heavy marijuana use and psychosocial harms including poorer school performance, higher school dropout rates, poorer cognitive performance, and limited success in education, employment, and income. Such problems can extend into adulthood. Associations with poorer performance has been observed in multiple cognitive domains, including memory, learning, executive functions and emotion.

An important limitation of these studies is the inability to draw conclusions about causality because most human marijuana studies are not prospective and compare findings in users to non-using controls that are matched for as many variables as possible. Nor is it possible to subject humans to the kinds intrusive brain research conducted with animals, and long-term prospective cohort studies tracking individual changes over time remain rare. The *National Institute of Health* (NIH) has planned a

10-year prospective Adolescent Brain and Cognitive Development (ABCD) study that will provide much needed longitudinal change data.

Whenever discussing problematic youth behavior it is also important to recognize that “at-risk” youth often experience multiple stressors, including poverty, physical and sexual abuse, hunger, living in an environment of violence and racism, to list only a few. In addition, a child’s ability to succeed in school depends, to a great extent, on family and social factors affecting the child’s life well before the child begins school. Marijuana use constitutes only one risk factor for impaired learning. It is extremely difficult to tease out cause and effect for complex problems.

But one need not resolve the myriad open research questions in order to conclude that a leading policy goal should be to delay youth marijuana use, and to reduce regular or heavy use. Those readers seeking more analysis of current science are referred to the numerous source materials on the BRC website. For purposes of this report, the work group assumes general support for the policy goals of minimizing youth marijuana use, and especially regular or heavy use, and protecting the most at-risk youth to the greatest extent possible.

Professional Treatment

Although most teenaged users of marijuana are experimental, occasional, or episodic users, there is a subgroup of about 11% of juniors and seniors in California high schools who are regular or heavy users. This is the group in which schoolwork and school retention are at greater risk, and this cohort contains youth among whom a diagnosis of DSM-V cannabis use disorder is most likely.

Unfortunately, teens in severe trouble rarely seek professional help, until leveraged by parents or authorities. In treating marijuana dependent teens, clinicians typically find that their closest friends use drugs; that they have a high level of denial that the marijuana use has any negative behavioral effects; and, that they are not addicted (“I can stop anytime I want”). A washout period of a month or more is often needed before cognitive benefits of stopping use are recognized. As in all addiction treatments, relapses are the rule rather than the exception and should not be punished.

In the community, there are typically few organized treatment venues for youth, apart from consultations with school counselors, pediatricians, and child psychiatrists. In refractory cases, families with means often turn to residential wilderness programs or therapeutic boarding schools to extract the teen from the environment and provide for extended socialization in the principles of recovery. For families without means, school-based counseling and the juvenile justice system remain the “treatments” of last resort.

A Comprehensive Assessment of Harm

The question of “harm” caused by marijuana is often distorted in two important ways. First, negative outcomes in the lives of marijuana users are too often automatically interpreted as *caused* by the drug rather than *associated* with both marijuana and a multitude of other factors that place youth at risk. Second, “harms” are often defined only in medical/biological terms, failing to account for the harms caused by enforcement-based marijuana policies.

Engagement with our criminal justice system has its own potential for long-lasting harms:

- Criminal arrest records, initiation into probation and juvenile hall’s incarceration subculture (“crime school”), psychological and re-entry traumas.
- Ineligibility for federal school loans.

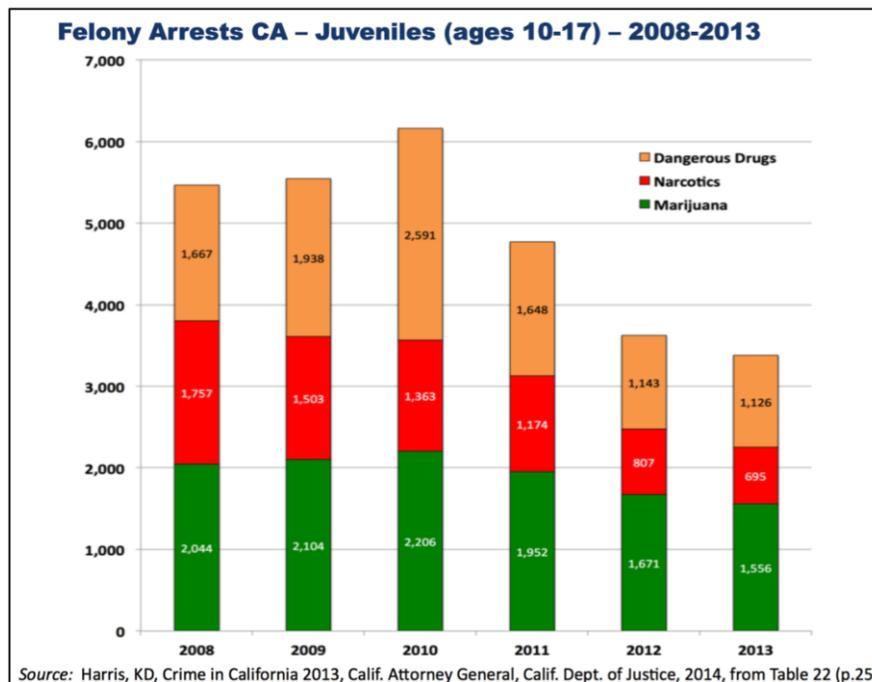
- School expulsions and suspensions.
- Employment screening problems.
- Racial discrimination in arrest and adjudication.
- Fines and attorney’s fees, which place the greatest burden on the poor.
- Immigration/naturalization problems.

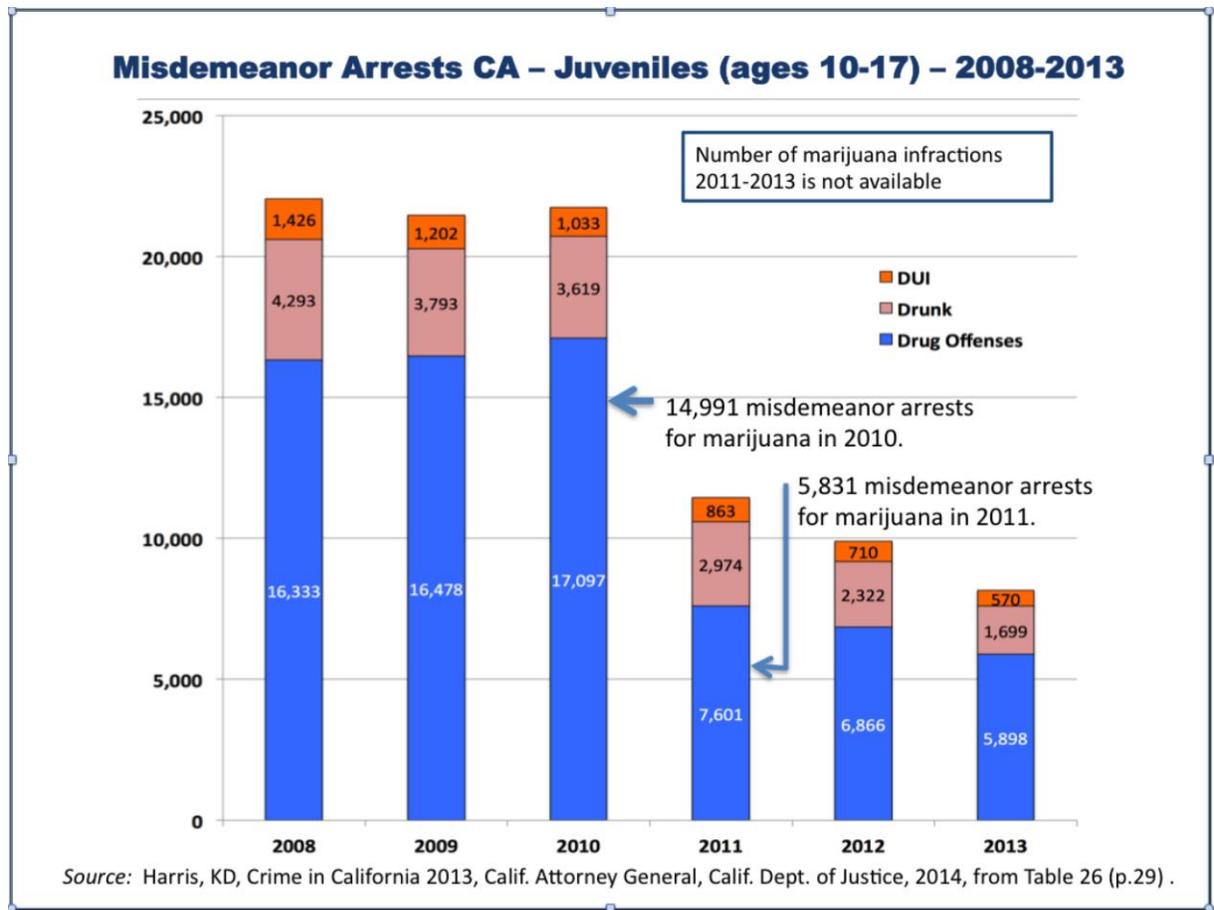
If marijuana use and possession are legalized for California adults in 2016, it is only those under 21 years of age for whom possession and use will remain illegal. Penalties should not exceed the harms of the drug itself. A 2010 law that downgraded possession of less than 1 ounce of marijuana to an infraction significantly reduced arrests. But policymakers could go beyond this to develop *non-punitive* sanctions to support families, school retention, and remediation for the minority of youth using marijuana regularly or heavily.

Since a decriminalization law was enacted in late 2010, juvenile marijuana misdemeanor arrests have dropped dramatically while juvenile marijuana felony arrests have declined much more slowly.

In 2011, three-fourths of California's declining marijuana possession arrestees (5,800/7,800) were under age 18, up from one-third in 2010.

The criteria for so many continuing misdemeanor arrests are not clear. Unfortunately there is no California Department of Justice data tabulating the rates of marijuana infraction citations; and the law enforcement distinctions between a juvenile misdemeanor and an infraction remain unclear, poorly documented, and are likely to vary in practice according to locale. At present there appears to be no systematic collection of marijuana infraction data.





A legalization initiative in California could provide an effective arrest record expungement process for individuals under 21 years of age. If it does, the experience with Proposition 36, enacted in 2000, should be considered: although successful addiction treatment completers could have their records expunged under Prop. 36, online computer searches, in many cases, can still easily find a historical record of arrests.

Under legalization, youth and communities will also benefit if the nature of marijuana legal charges and the attendant penalties or sanctions are clearly stated and understandable to everyone. In particular, there should be clear criteria established for discriminating among infractions, misdemeanors, and felonies for youth. The level of criminal sanction and its duration should be appropriately linked to the level of the offense.

Non-Criminal Sanctions

A middle ground of community and school-based sanctions that neither criminalizes nor medically pathologizes youthful marijuana users is critically important. The Office of the California Attorney General should seriously consider developing a systematic tracking system for marijuana-related infractions (while individual offenders should be anonymized in state and local databases). Charging minors with infractions rather than misdemeanors, whenever possible, is necessary to minimize the detrimental impacts of criminal convictions upon educational and life opportunities. Fix-it tickets that call for education (similar to traffic school) and/or enrollment in a Student Assistance Program (SAP)

might be appropriate. An infraction ticket for a minor could require a parental notification. Infraction fines (~\$100) could be waived for minors after completion of sanctioned education.

Protecting Youth under Adult Marijuana Use Legalization

It is impossible to fully predict what the consequences of a Tax & Regulate framework will be in California. Without adult legalization, it has already proven impossible to ensure that adolescents delay initiating marijuana use until adulthood. However, with a Tax and Regulate framework, it should be possible to promote various forms of harm reduction based on an honest presentation of the scientific rationale for delay. Most prevention and remediation work is best done in the school system. Additional efforts to reach youth should be made through community and public health systems.

Regulations

Legalization requires regulation, just as legalization of alcohol and tobacco has been accompanied by intense regulations and public health efforts at dissuasion. A wide range of regulations governing a legal cannabis industry would have significant impact on adolescents, including the following:

- Strict enforcement of laws against distribution of marijuana to individuals under 21;
- Maintenance of artificially high price, without being high enough to foster an underground market;
- Strict limits on the number, type, location, and sales practices of marijuana retail outlets;
- Strict limits on sale of products that are particularly attractive to young people (no candy edibles);
- Restrictions on marketing and advertising practices that appeal to youth; and
- Accurate quality assurance and labeling of potency, purity and total dose.

If marijuana use is legalized, taxed, and regulated for adult consumption, policymakers should consider what tools will limit access and consumption by children and youth. In all considerations of regulations, youth must be a top priority.

The Influence of Marijuana Price on Youth Use

Young people have less disposable income than adults, which makes them what economists call a “price-sensitive” population. For this reason, taxes that raise the price of cigarettes are particularly effective in deterring youth tobacco use. The same principle may apply to marijuana under legalization: Lower prices may be particularly tempting for youth, higher prices will help deter use. A fall in marijuana's price after legalization is certain (Washington State's prices have declined by 50% in the past 12 months) because it is simply cheaper to do business in a legal market than an illegal one. That said, there are a number of ways that regulators might choose to keep the price from falling so far that youth use increases dramatically. For example, as has been done with alcohol in some countries, a minimum price could be set under which marijuana could not legally be sold (e.g., \$5/gram). Another approach is to make any tax on marijuana an excise tax rather than a tax based on a percentage of price (e.g., \$50 an ounce versus 20% of sale price). This would ensure that marijuana could not be sold for less than whatever the amount of the excise. Because lower prices have the advantage of helping eliminate illicit markets, concerns about not letting prices fall so low that they incite increased youth use must be balanced with concerns about illicit market reduction. Whatever choice is made in this domain, it should be noted that price regulation is a potent way to affect youth use, regardless of where a young person lives and whether they are in school.

Student Assistance Programs

Marijuana tax revenues could help ensure that school retention and performance are improved. Funds could be preferentially allocated to school-based programs, e.g., Student Assistance Programs (SAPs) for high schools, that emphasize learning skills, remediation of academic performance, school climate, school retention, peer group interventions, family engagement and reduced drug use, as well as to support services for vulnerable youth populations no longer in school. Our review indicates that SAPs are effective over the short-term (long term studies of SAP impacts are lacking). There are many SAP working models to consider, both in-state and elsewhere in the U.S. The key goals should emphasize school retention, cognitive/learning assessments, and academic remediation, as well as referrals for professional care when indicated. The research suggests that this approach will yield better outcomes than punitive policies (zero-tolerance suspension/expulsion policies or random toxicology testing). Tax revenues could also help fund ongoing outcomes research to allow policy-makers to assess the effectiveness of various aspects of the marijuana regulatory system in improving school performance, retention and dropout rates, availability and use of marijuana and other drug/alcohol use among students, and co-occurring behavior problems.

SAPs are modeled on the confidential services provided for adults by Employee Assistance Programs (EAPs). The “workplace” for youth is the classroom. SAPs can provide the three-tiered range of prevention services outlined by the Institute of Medicine (IOM) by addressing three levels of risk:

1. *Universal* prevention strategies provide drug education for every student.
2. *Selected* prevention strategies target subgroups known to be at elevated risk (e.g., those just entering high school or with a family history of addiction).
3. *Indicated* prevention strategies focus on individuals known to have initiated risky behaviors (e.g., marijuana use or binge drinking).

Prevention conceptually encompasses all services provided *before* a diagnosis of substance use disorder is made and before treatment is needed. In most cases marijuana-related problems will result in learning problems before they rise to the level of an addiction diagnosis *per se*. The most effective SAPs also involve students’ families as genuine partners in early intervention. SAPs can successfully respond to students at different levels of risk, providing universal preventive education for every student, specialized education for selected at-risk populations, and focused interventions when indicated.

The following table summarizes SAP’s multi-tiered prevention and mitigation approach to supporting adolescents to delay and limit marijuana use.

SAPs are valuable interventions for young people. Additionally, individual school districts and schools may wish to adopt different strategies to protect youth, and innovative designs with outcomes measures could also be considered for funding from marijuana tax revenues. The critical requirements are that (1) The program fits well with the cultural, social and educational needs of the district or school concerned and (2) The program has a solid evidence base. Beyond SAPs, some programs meeting these criteria include prevention programs that help teachers promote pro-social, task focused classrooms (e.g., The Good Behavior Game) and programs that help communities come together to intervene effectively for a range of youth development issues, including but not limited to substance use.

Key Findings:	Implications:
1. Early onset (ages 13-16) of marijuana use is a significant risk factor.	a) Universal and selected prevention activities that seek to delay initiation of marijuana use. b) Engagement of cohesive peer groups . c) Family engagement for at-risk youth.
2. Regular (10-19 days/mo.) and heavy users (at least 20 days/mo.) are more likely to show cognitive slippage than occasional users. 3. There will likely be 49,000 regular users (3%) and 130,000 heavy users (8-9%) in California high schools (2015-16), before any change in access or use attributable to a legalization initiative.	a) Indicated intervention by Student Assistance Programs (SAPs) . b) SAPs need to include cognitive and learning assessments . c) SAP referral mechanisms for learning skills training and professional assistance for drug dependence.
4. Regular and heavy users are more likely to skip school, drop out, and not proceed to further education.	a) Evidence-based programs to improve school climate . b) Engagement methods for school disaffiliateds.
5. Transitions of marijuana use are common after high school, but are poorly studied.	a) Recovery support . b) Long-term outcome research needs to be funded by new marijuana tax revenues.

For example, the Communities that Care (“CTC”) program is based on a system developed by researchers and distributed in a variety of formats by the University of Washington Center for Communities that Care. The Center helps communities learn about CTC and install it, and offers personalized support to help implement it. CTC was tested in a randomized controlled trial involving twenty-four communities across seven states matched in pairs within each state and randomly assigned to either receive CTC or serve as control communities. A total of 4,407 students from CTC and control communities were followed and surveyed annually from the fifth grade. By the spring of the eighth grade, significantly fewer students from the CTC communities had health and behavior problems than those from the control communities. Compared to the control groups, students from CTC communities were: 25% less likely to have initiated delinquent behavior; 32% less likely to have initiated the use of alcohol, and; 33% less likely to have initiated cigarette use. These significant effects were sustained through tenth grade, one year after the intervention phase of the trial ended. By the end of the tenth grade, students from CTC communities also had 25% lower odds of engaging in violent behavior in the past year than those from control communities.

Reforming Drug Education

There is little dispute that *abstinence* is the best choice for teenagers, for a host of sociological, psychological, and physiological reasons. However, given the persistence of marijuana use among young people, and despite our best efforts to date, a more comprehensive strategy is required.

We do not find evidence to support the efficacy of “scare them straight” programs. Most drug education programs are aimed solely at *preventing* marijuana and other drug use. After instructions to abstain, the lessons end. No information is provided about how to avoid problems or prevent abuse for those who do experiment. Abstinence is treated as the sole measure of success, and the only acceptable teaching option. The abstinence-only mandate puts adults in the unenviable position of having nothing to say to the young people we most need to reach—those who refuse to “just say no” to marijuana use, thereby foregoing the opportunity for having real conversations about how to reduce risk and stay safe. The educational/prevention components of school-based programs could be much more effective in preventing, delaying, and mitigating harms of use by:

- Providing science-based information on the effects of cannabinoids,
- Providing data in support of delay of marijuana use,
- Encouraging moderation, self-regulation, and harm reduction when abstinence is not practiced, and
- Development of universal education for all age groups.

Research on Long-Term Outcomes

Those drafting any reform initiative or subsequent legislation, budgets or regulations should strongly consider ensuring adequate, stable funding for outcomes research to guide revisions to the law focusing on topics such as:

- School retention, dropout rates;
- School performance, cognitive functions, further education;
- Levels of marijuana and cannabinoid use among students, other drug use, including alcohol and tobacco, and;
- Co-occurring behavior problems.

Conclusion

Under legalization for adults, a school-based approach to delaying initiation, harm-reduction, mitigation and academic support holds promise for protecting the health of adolescents. The goals of reducing drug use and improving school retention and performance have not been achieved under prohibition. However, without a mechanism for ensuring ongoing sufficient funds to provide support needed by at-risk youth, school-based services such as Student Assistance Programs (SAPs) will remain underused, despite their proven value. A Tax and Regulate policy legalizing marijuana use by adults has the potential to reserve sufficient revenue to provide universal access to programs such as SAPs that emphasize learning skills, remediation of academic performance, improved school climate, school retention, peer group interventions, family engagement and more effective drug education, prevention and counseling programs. School districts disproportionately impacted by high dropout rates should have enhanced funding for student outreach, support and treatment services. Tax revenue could also be committed to support clinical care for disadvantaged and uninsured youth in the most severe end of the cannabis use disorder spectrum as well as services for high-risk youth no longer in public schools. A framework of regulations governing the marijuana industry designed to protect youth will also be needed to limit youth access to marijuana and foster an environment for prevention and education programs to be maximally effective.

Please visit the Publications section www.safeandsmartpolicy.org for source materials and additional studies reviewed by the Youth Education and Prevention Working Group.