

# Doctors And Teens At Opposite Ends On Marijuana

By Solutions, Education News Colorado and I-News Network



Dr. Christian Thurstone, right, an adolescent psychiatrist, gives instruction to a patient, who requested not to be identified, about a prescription at Denver Health's STEP Program office on Wednesday, Feb. 1, 2012 in Denver.

*Joe Mahoney / I-News Network*

He's 16 but his baby face makes him look a little older than 10, his age when he first tried marijuana.

"I smoke marijuana every single day all day long," the teen said during a lunch period spent hanging out in a park outside his downtown Colorado Springs high school.

"It develops brain cells. That is a complete and true fact," he said. "It kills weak brain cells. It does affect your lungs ... but it's better than smoking cigarettes."

Dozens of students interviewed across Colorado as part of an investigation by *Education News Colorado*, *Solutions* and the *I-News Network* made similar statements:

*Marijuana is healthy. It helps me focus in class. And, hey, it's better than alcohol or cigarettes.*

"It's less damaging to smoke weed," said a 15-year-old girl getting high over lunch near her Denver high school. "I'm not trying to mess with my body."

The investigation found a 45 percent increase in drug violations reported by schools statewide in the past four years, even as violations in nearly every other category – including alcohol and tobacco use – declined.

School officials and health care workers repeatedly cited the location of medical marijuana dispensaries near schools and the saturation of marijuana in surrounding communities.

They say Colorado’s thriving cannabis industry and its advertising —online and on storefronts at more than 700 dispensaries — have emboldened young people to justify abuse and claim health benefits from marijuana.

But contrary to perceptions among students, doctors say marijuana is especially harmful to kids for two key reasons:

First, new research shows adolescence is a crucial time for brain development and marijuana use can permanently change the teen brain. Second, young people who start using marijuana before age 18 are much more likely than adults to become addicted to the drug.

“It’s an ironic play of events that use is going up at the same time that the science is coming out about its possible brain toxicity,” said Dr. Chris Thurstone, an adolescent psychiatrist who runs a substance abuse treatment program at Denver Health.

“We need to tell people that youth are the most likely to become addicted to marijuana and that when they become addicted, they are at higher risk for every bad outcome a teenager can face.”

Doctors interviewed across the spectrum, from vocal marijuana opponents to those who recommend it for patients, agreed that marijuana can be addictive. And the diagnostic bible for health providers, the *Diagnostic and Statistical Manual of Mental Disorders*, lists cannabis abuse and cannabis dependence as possible diagnoses.

“There is no debate in the scientific community,” Thurstone said. “It’s physically and mentally addictive.”

### **Research findings grim for young cannabis users**

Few teens heed such warnings, however. While adolescents have always been impulsive thrill seekers, Thurstone and other researchers have found that all the most dangerous behaviors escalate when teens use marijuana.

It’s no different than when they use alcohol or other drugs.

The more often teens use and the greater the dose, the more reckless their behavior becomes. So regular marijuana use puts them at greater risk for dropping out of school, engaging in risky sex behaviors and getting in accidents, the leading cause of death for adolescents.

Research paints a grim picture for marijuana users who start at a young age:

Teens using marijuana before age 18 are [two to four times more likely to develop psychosis](#) as young adults compared to those who do not.

The teen brain is much more vulnerable to addiction. One in 6 kids who try marijuana before age 18 [will either abuse it or become addicted to it](#) compared with 1 in 25 adults.

[Studies](#) show that heavy doses of THC, the key chemical in marijuana, during adolescence change the way the brain develops. In particular, marijuana’s harmful effects strike the hippocampus, which is critical for learning and memory.

“We know that adolescents who start using marijuana between the ages of 14 and 22 – and stop by 22 – have many [more cognitive deficits at age 27 compared to non-using peers \[PDF\]](#),” said Dr. Paula Riggs, director of the Division of Substance Dependence in the psychiatry department at the University of Colorado School of Medicine.

“It affects brain processing, decision-making, impulsivity and memory,”

Riggs said there’s little question among doctors that marijuana can be beneficial for a small percentage of patients who have cancer, multiple sclerosis, glaucoma or nausea from HIV treatment.

But that doesn’t mean it’s safe or healthy for kids.

“There’s no medical indication for medical marijuana in young people at all,” she said. “It’s not a medication. There are 400 other chemicals and many carcinogens in smoked marijuana.”

The revolution in brain science has only increased concerns about harm to the teen brain.

Experts used to think that the brain was fully formed by about age 6.

But new brain scan research has found that nerve cells don’t finish developing until young people reach their mid-20s. Teen brain cells don’t have as much of a fatty coating called myelin which helps messages travel from neuron to neuron efficiently. The brain also sheds unnecessary connections during adolescence.

It turns out that one of the last parts of the brain to fully mature is the prefrontal cortex, which governs complex decision-making and analysis.

“In other words, the adolescent brain craves pleasure, but it doesn’t know how to weigh risks, determine and plan for consequences or say ‘enough is enough,’” said Thurstone, who is conducting a five-year study on medical marijuana in Colorado for the [National Institute on Drug Abuse](#).

### **Debating a rise in marijuana use among teens**

Blaming marijuana for increasing risky teen behavior is a leap, said Dan Rees, an economics professor at the University of Colorado Denver.

“It turns out that kids who use marijuana also drink alcohol and get in car accidents and have sex without condoms. It’s impossible to distinguish the effect of the marijuana and the effect of personalities,” said Rees, who has been studying the impacts of marijuana legalization throughout the United States.

He’s not surprised if young people are now getting medical marijuana rather than street weed. But he’s not convinced that overall use is up among kids or that marijuana is any more dangerous than other drugs that kids abuse.

Several studies show that alcohol use declines when marijuana use increases. One of [Rees’ studies \[PDF\]](#) found that traffic fatalities went down by nine percent in 13 states, including Colorado, that have legalized medical marijuana. The researchers don’t know why. It’s possible that people drive more when they’re drunk than stoned.

The study used data through 2009, just as dispensaries began spreading across Colorado. So it’s unclear how the boom in dispensaries has affected marijuana use or driving here.

Another study by Rees shows that, in states that have legalized medical marijuana, use increases dramatically among young adults. But that did not hold true for those under 18.

Rees described the finding as “puzzling.” The study, which is not yet published, also used data through 2009.

“My strong suspicion is that there’s diversion from the legal market to the illegal market. The fact that kids are ending up with marijuana that was originally intended for the legal market doesn’t surprise me,” he said.

“There’s just no evidence that medical marijuana affected the percent of youth who said they smoked marijuana in the last month.”

Surveys in Colorado and nationally, however, appear to indicate marijuana use is rising.

In Colorado, a survey of more than 27,000 students through the [Adams County Youth Initiative](#) found a jump in use. In 2008, 19 percent of students in various Adams County middle and high schools said they had used marijuana in the last month. That number increased to 22 percent in 2009 and 30 percent in 2010.

And the [Monitoring the Future study](#), the largest national survey of students and drug use, found in 2011 that marijuana use has risen for the fourth straight year after consistent declines in the past decade. The study also found one in 15 high school seniors now uses marijuana daily. That marked a 30-year peak for daily use, a finding that sparked great concern for Riggs.

“People will say, ‘I smoked in the ‘60s and I didn’t become addicted,’” she said. But, “Adolescents who are daily users are at much higher risk for becoming dependent. And the marijuana, by and large, is more potent today.”

State-by-state data for marijuana use should be available for the first time in the next couple of years. Riggs said that information will be critical because, unlike Rees, she suspects access to marijuana in the 16 states that have legalized it may be driving the increased use found in national survey results.

Here in Colorado, teens that Riggs sees through her clinical trials often repeat claims such as marijuana helps them “focus.” When she probes further, she finds their grades are going down.

“What they mean is ‘I’m totally lost. I can tolerate sitting there lost (in class),’” Riggs said. “It’s zoning them out.”

“They often come in and say, ‘It’s not addictive. It’s natural. It’s an herb.’ But you wouldn’t go out and pick poisonous mushrooms, would you?”

### **Recreational pot for teens ‘absolutely’ not healthy**

Dr. Alan Shackelford recommends marijuana to some of his patients and advises lawmakers around the country on medical marijuana legislation. He maintains a business and website, [Amarimed of Colorado](#), devoted to medical marijuana.

In very rare cases, Shackelford said he has recommended marijuana for children, including a toddler who was dying of a brain tumor.

“Her oncologist at Children’s was in complete agreement. We know that cannabis makes opiates much more effective. Judicious cannabis use allowed the parents to decrease the amounts of morphine and also got rid of horrific pain,” Shackelford said.

Recommending marijuana to some patients, however, and endorsing recreational use among kids is not the same thing.

“Do I think kids ought to say that it’s healthy and use it recreationally? Absolutely, I do not,” Shackelford said.

But he believes a narrow focus on marijuana abuse among kids distracts from the more harmful effects of other drugs they’re using, including tobacco, alcohol and prescription medications.

“Cannabis is much safer than those things,” Shackelford said. “I’m not demonizing alcohol or opiate prescription medications. Used correctly, alcohol can be no more lethal than Percocet. But both have the potential to kill people.”

Shackelford says marijuana is a valuable tool for some patients. He has found it particularly helpful for patients with migraines and elderly patients with rheumatoid arthritis.

He never recommends that patients smoke it and declines to say how many recommendations he gives per year for medical marijuana or what percentage of his patients seek it.

And he has a message for young people who claim marijuana is healthy.

“Don’t kid yourselves. Don’t use terms to rationalize something when we don’t know what the consequences are,” he said.

“It’s certainly not healthy like eating an apple and probably not healthy in teenagers, not in someone who is still developing.”

The same applies to abuse of Ritalin, Percocet, alcohol or methamphetamine, all of which Shackelford views as much more dangerous.

While debate is fierce over the relative harm of various drugs, Thurstone said the No. 1 drug his patients are abusing is marijuana. He has treated patients as young as 11 for its use.

Nationally, in substance abuse treatment programs, two-thirds of patients are dealing with marijuana abuse or dependence. At Thurstone’s Denver Health program, the figure is 95 percent.

“Many lives are being destroyed by this,” Thurstone said. “(Teens) are dropping out of life. They’re dropping out of school or if they’re not, they’re doing really badly.

“They’ve dropped away from their family, their friends and their sports to smoke marijuana every day, all day. We see that all the time.”

*This story was written by Katie Kerwin McCrimmon of Solutions.*