ASAP

Adolescent Substance Abuse Program
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HARVARD MEDICAL SCHOOL

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Dear Commissioner of the Massachusetts Department of Public Health:

I am writing in regard to implementation of the new "medical marijuana" law on behalf of Boston Children's Hospital and the Massachusetts chapter of the American Academy of Pediatrics. I and my colleagues are very concerned about the potential impact of this law on the health of children and adolescents and thank you for the opportunity to comment.

As a Developmental-Behavioral Pediatrician and a researcher in the field of adolescent substance abuse, I serve as chair of the American Academy of Pediatrics' national Committee on Substance Abuse and I have been the Director of the Adolescent Substance Abuse Program (ASAP) at Boston Children's Hospital since its inception in 2000. In this capacity, I have evaluated and treated hundreds of teens with substance use disorders. I have personally witnessed the toll of addiction on these young lives as well as on the lives of countless friends, parents and siblings, and I hope my comments will be useful.

As you know, marijuana refers to the cannabis sativa plant, leaves of which contain biologically active molecules known as cannabinoids that are often smoked (or eaten) for their psychoactive effects. Although cannabinoids may have useful therapeutic value, the Institute of Medicine, American Medical Association and many other professional medical associations oppose the use of smoked marijuana for medical purposes because of the physical harms associated with this form of delivery. Instead, many of these organizations are in favor of the development of cannabinoid-based pharmaceutical products which can be subjected to the same regulatory standards as all other medications. To date one cannabinoid pharmaceutical product has been approved by the FDA and several other preparations are being studied. It should be noted that studies on the efficacy and safety of cannabinoids have identified only a few areas of true therapeutic potential - analgesia in chronic neuropathic pain, appetite stimulation in debilitating disease and spasticity in multiple sclerosis. No cannabinoid product has been studied for safety or efficacy in children or adolescents.

Marijuana is an addictive drug. Because of its long half life in the body, marijuana is not associated with withdrawal symptoms often considered the sine qua non of addiction by the lay public. However, marijuana does cause changes in the same areas of the brain as other addictive drugs (in particular the nucleus accumbens) and individuals addicted to marijuana lose control over their drug use, just as individuals addicted to other substances. Marijuana use is also associated with serious mental and physical health consequences to which adolescents and young adults are particularly susceptible – including substantially increased risks of depression, anxiety

disorders, and psychotic disorders. Use of marijuana during adolescence is associated with cognitive decline as measured by a drop in IQ points over time. Adolescence is also a developmentally vulnerable period – the younger an individual begins using marijuana the more likely s/he is to develop addiction or a related mental health condition. Currently more adolescents are in treatment for marijuana disorders than all other substances (including alcohol) combined. The rate of marijuana use by adolescents has skyrocketed over the past several years. Since 2009 more adolescents report current use of marijuana than tobacco, and in 2011, 9% of teens use marijuana daily or near daily, an increase of 80% since 2008.

While marijuana is scheduled as a Class I substance by federal law, 18 states (including our own) and the District of Columbia have passed "medical marijuana" laws by ballot initiatives that protect patients who possess and use marijuana with their physicians approval, and allow for cultivation and sale of medical marijuana. While none of the states with medical marijuana laws that report adolescent use rates through the Youth Risk Behavior Surveillance System (YRBSS) have yet found an increase in gross use rates in the 2-3 years following implementation, it can take many years for a newly passed ballot initiative to mature into a fully operating system of marijuana dispensaries and even longer until this system can impact adolescents.

Marijuana dispensaries where marijuana is sold are of particular concern. In some areas, these dispensaries may legally advertise their services and often produce ads targeted at youth. The experience of other states is informative. In Colorado, the number of applications per month for medical marijuana cards jumped from 495 in January 2009 to 10,585 in December of that year, after a change in the medical marijuana laws allowed dispensaries selling marijuana to open. The large majority of these recommendations were provided by fewer than 10 clinicians, some of whom worked at mobile dispensary units. While teens were not eligible for medical marijuana cards without parental consent, marijuana use by 9-12 graders increased in parallel to the increase in sales of medical marijuana. Drug-related school suspensions which had been stable around 3,000 per year began to skyrocket in 2009 in parallel and hit nearly 5,000 per year by 2011. A study found that adolescents presenting for treatment of marijuana disorders who had obtained marijuana from a "licensed user" were significantly more likely to describe marijuana as "very easy to access" and to use more than 20 times per month.

Marijuana use can also impact children who live in households with marijuana users. Accidental ingestion of marijuana in doses that are well tolerated by adults can result in serious consequences, including hospital admission for toddlers. This is a particular concern as preparations of marijuana as foods such as cookies and brownies, particularly palatable to young children, have begun to proliferate. Furthermore, there is a complete lack of information specifying safety thresholds for second-hand marijuana smoke on bystanders, especially children.

As a pediatrician concerned about children's health and devoted to the treatment of youth with drug problems, I urge you to consider the following recommendations in relation to the implementation of the Commonwealth's medical marijuana law.

1. **Prevent "medical marijuana" licenses for pregnant women, children and teens under the age of 18**. There is no safety or efficacy data at all in this age group, and there is compelling evidence that marijuana is neurotoxic to children and adolescents. The American Academy of Pediatrics opposes "medical marijuana" for children. Several recent news reports have portrayed the short term benefits of marijuana for children with complications of chemotherapy, seizures, and autism. While the anecdotal reports can be dramatic, we do not know how these children fare in the long run. Modern medicine has learned the hard way that very promising looking therapies can ultimately turn out to cause more harm than good. Let's not let history repeat itself.

2. **Restrict "medical marijuana licensing" to physicians.** Ensuring accountability of prescribers will help minimize the potential for abuse of this authority.

3. **Ban all advertising for medical marijuana**. Marketing can be a powerful behavior modifier and as we learned from tobacco and alcohol it is nearly impossible to regulate. Experience from other states suggests that advertising and marketing pose a critical threat to adolescents regarding medical marijuana.

4. **Protect children from ingestion and second-hand smoke**. Regulate how individuals may use "medical marijuana" to insure children are not unintentionally exposed. Require "childproofing" for any edible marijuana preparation and restrict smoking in homes where children reside.

5. **Set aside resources for public service campaigns**. Many proponents of "medical marijuana" portray marijuana use as harmless - ignoring a growing body of literature linking marijuana use in adolescence to mood, anxiety and thought disorders as well neurocognitive decline over time. The state has the responsibility to educate both medical professionals who will now be asked to "license" medical marijuana users, as well as the public about the known harms of marijuana. Anecdotally, nearly all of the patients treated in the Adolescent Substance Abuse Program at Boston Children's Hospital who use tobacco would like to quit because of health concerns, while few adolescents can understand why we advise them to stop using marijuana. This problem will become worse with the new "medical marijuana" laws if they are not balanced by accurate public information from a reliable source.

6. **Set aside resources to monitor the unintended consequences of the new law**. Other states have started to find unintended consequences of "medical marijuana" laws on children and adolescents. Massachusetts with its robust biomedical research and public health infra-structure is particularly well suited to monitor for these changes which will help to inform new policy over time. Millions of lives may have been saved had tobacco and tobacco policy research been more organized. This time let's be ready.

Please do not hesitate to contact me if I can answer any questions about this testimony or be of any help to the committee as it deliberates on this bill.

Sincerely,

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