



## IMPACTS OF MARIJUANA EXPOSURE ON CHILDREN 0-5 THE URGENCY TO ACT

### EXECUTIVE SUMMARY

*The passage of Proposition 64 in California, legalizing recreational marijuana, is set to drastically change the relationship of Californians to marijuana. As a voice for children 0-5, the First 5 Association is concerned that with anticipated greater use and acceptance of recreational marijuana, more young children may experience unintended health effects. Research shows legitimate health concerns in other states that have legalized marijuana, including increased unintentional exposures in young children leading to hospitalization. In addition, the public health research is beginning to reveal short term and long term health and development impacts for children of women who smoke marijuana during pregnancy.*

*Because of these potential health impacts on young children, First 5 urges careful attention by state leaders, state agencies, and other policy makers to the opportunities for enacting regulatory safeguards and allocating available resources to prevention and intervention services that can address potential impacts to this critical group of children. With an anticipated \$1 billion dollars in revenue from marijuana taxation at the state level alone, California has a prime opportunity to allocate funding for initiatives that would inform young parents about these impacts and support prevention and intervention programs aimed to support young children and families at the most critical stage of brain development.*

*First 5 Commissions have been incorporating information about marijuana exposure into their work for some time, developing marijuana prevention and intervention services targeting pregnant mothers who use marijuana. As a statewide network of public agencies with existing infrastructure and partnerships, First 5 is uniquely positioned to scale up these efforts and implement the necessary prevention and intervention activities that will benefit young children across the state. However, additional revenue and regulatory support are needed to ensure that this work is consistent, scaled, and coordinated with broader marijuana education and harm reduction programs.*

### INTRODUCTION

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The legalization of recreational marijuana in California, set in motion by the passing of Proposition 64, is anticipated to change the use and acceptance of the drug among Californians. The increased availability along with the changing perceptions of marijuana will necessitate that California look at the unintended effects these changes may have on young children aged 0-5. Past and emerging research on maternal marijuana use shows that there may be both short-term and long-term health effects for children whose mothers use marijuana during pregnancy. There has also been a notable increase in unintentional exposures in young children leading to hospitalization in states where marijuana has been legalized.

The emerging research shows health impacts to young children and policy makers must work to dedicate funding for investments in early childhood development. First 5 Commissions across the state have begun to address this issue by championing targeted educational campaigns for pregnant mothers

and young families. In addition, First 5 has programs in place across California's 58 counties that provide the existing infrastructure to implement services and campaigns to reach young parents and health practitioners. This policy paper details the existing research on health impacts of marijuana on young children; evidenced-based interventions and preventative efforts, the potential for Proposition 64 tax revenues to implement many of these programs across the state.

## **HEALTH IMPACTS OF MARIJUANA ON CHILDREN (Ages 0-5)**

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There is growing scientific research related to marijuana-related health impacts on young children. The legalization of recreational marijuana in Colorado has prompted more research in recent years from the Colorado Department of Public Health and Environment, in accordance with a mandate from the State after legalizing recreational marijuana in 2012.

### *Marijuana exposure and proximity for young children*

States that have legalized recreational marijuana have found an increased number of unintentional exposures for children leading to hospitalization. A 2016 article published in *JAMA Pediatrics* found that the average marijuana-related visits to the Children's Hospital of Colorado nearly doubled, increasing from 1.2 per 100,000 population to 2.3 per 100,000 two years after legalization.<sup>i</sup> While these incidents of marijuana exposure have primarily been unintentional and accidental, the research indicates that California is likely to see an increase in incidence of exposures of young children, as recreational marijuana is legalized.

Marijuana exposures in children commonly involve edible marijuana products, such as cookies and candies, that are desirable to children who are developmentally inclined to put items in their mouths. The Colorado Department of Health has found that most pediatric exposures to marijuana involve infused edible products, made by adding concentrated Tetrahydrocannabinol (THC) into foods, that are not in child resistant containers. Moreover, the Department estimates that approximately 14,000 families in Colorado have children under the age of 15 in the home with potentially unsafe marijuana storage. Children in California may be similarly at risk, as California marijuana retailers have no requirements for selling products in child resistant packaging.

Legislative efforts are already underway to address these health concerns: AB 175 (Chau) would regulate the packaging on marijuana edible products and AB 350 (Salas) would limit the shape of marijuana edible products to ensure they are not attractive to small children.<sup>ii</sup> The First 5 Association strongly supports both efforts to help rein the unintended consequences of increased access and exposure to marijuana. However, while both bills will help address these public health concerns, we anticipate that packaging restrictions will not completely eradicate the potential for poisoning, point to the need for further parent education.

The symptoms and effects of marijuana intoxication in children vary. The Children's Hospital of Colorado reports that symptoms of marijuana intoxication in kids include being unbalanced, sleepiness, poor respiratory effort, and less commonly, induced coma.<sup>iii</sup> As the legalization of marijuana will potentially increase the availability of marijuana in more California households, the extent of unintentional marijuana exposures in young children is an area that requires greater research, outreach and education, and potentially further regulations beyond the current legislative efforts.

### *Known effects of marijuana use during pregnancy on children*

In addition to increased pediatric exposures and hospital visits, there is scientific evidence that THC passes from the mother to the unborn child through the placenta, potentially affecting the baby. The Colorado Department of Health's guidance to health providers on talking to pregnant mothers recommends saying "there is no known safe amount of marijuana for your baby."<sup>iv</sup> Although studies about birth outcomes are limited, research has found that marijuana use during pregnancy may be associated with increased risk of still birth and heart defects, and decreased birth weight in exposed offspring. A study of fetal growth among over 7,000 pregnant mothers found that maternal marijuana use during pregnancy was associated with growth restriction in mid and late pregnancy and with lower birth weight of the infant.<sup>v</sup> Indicators of restricted growth in the uterus, such as decreased birth weight, can increase chances of adverse long-term development outcomes.

Emerging studies also link maternal cannabis use to developmental delays later in life that may not appear until adolescence. For example, there is evidence that marijuana use during pregnancy is associated with increased attention problems. Two studies found that prenatal marijuana exposure had a negative effect on the attentiveness of children at 6 years and 10 years, respectively.<sup>vi,vii</sup> There is also evidence that maternal marijuana use resulted in decreased IQ scores and decreased cognitive function in offspring.<sup>viii</sup>

Less is known about the effects of breastfeeding on babies of mothers who use marijuana, although there is biological evidence that THC is present in the breast milk of mothers who use marijuana. Infants who drink this breast milk absorb and metabolize the THC. The American College of Obstetricians and Gynecologists recommends that due to insufficient data on the effects of marijuana use on infants during lactation, marijuana use should be discouraged.<sup>ix</sup>

Still, proposition 64 aptly recognized the importance of public awareness about the adverse effects of marijuana use during pregnancy and while breastfeeding. In fact, the proposition spells out the health advisory label that must be placed on marijuana products:

*GOVERNMENT WARNING: THIS PACKAGE CONTAINS MARIJUANA,  
A SCHEDULE I CONTROLLED SUBSTANCE. KEEP OUT OF REACH OF CHILDREN AND  
ANIMALS. MARIJUANA MAY ONLY BE POSSESSED OR CONSUMED BY PERSONS 21  
YEARS OF AGE OR OLDER UNLESS THE PERSON IS A QUALIFIED PATIENT  
MARIJUANA USE WHILE PREGNANT OR BREASTFEEDING MAY BE HARMFUL.  
CONSUMPTION OF MARIJUANA IMPAIRS YOUR ABILITY TO DRIVE AND OPERATE  
MACHINERY PLEASE USE EXTREME CAUTION<sup>x</sup>*

As society's relationship with marijuana will inevitably change due to legalization, further research is needed regarding the public health impact on children of marijuana use by their pregnant and breastfeeding mothers. Several issues make it difficult to quantify the effect of maternal marijuana use on children. One, mothers using marijuana during pregnancy are more likely to be using tobacco and alcohol also, which makes it harder to discern the fetal outcomes from individual substances. In addition, research is often based on reports by pregnant women who are proven to under-report. And finally, over the last 4 decades the percentage of THC in marijuana has shown to have increased, with one study indicating that between 1993 and 2008, THC concentration rose from an average of 3.4% to 8.8%.<sup>xi</sup> This shows that the impacts of children's exposure to cannabis –both prenatally and during early development- could be more severe given the higher concentrations of THC.

Future longitudinal studies that measure the impact of prenatal marijuana use as offspring reach adolescence will more fully reflect the impact of marijuana potency and could identify further regulatory needs to mitigate potential harmful effects.

### *Teen births and marijuana*

The potential impacts of marijuana use during pregnancy may be an even higher risk for adolescents, who are more likely to use marijuana during pregnancy. Colorado Department of Health notes that of any age group, those from 15-19 years of age reported the highest use of marijuana during pregnancy. In fact, 14% of pregnant women aged 15-19 reported using marijuana during their pregnancy, compared to just 4.3% of women aged 25-34.<sup>xii</sup> The statistically higher rate of marijuana use for pregnant teens increases exposure to the potential effects of marijuana on the children of this age group.

For California, these numbers are alarming as we consider the female teen pregnancy rate in California, with some counties as high as 45 teen births per 1,000 young women ages 15-19<sup>xiii</sup>, compared the national average of 20.3 for the same age group.<sup>xiv</sup> Adolescents may be especially hard hit, as the legalization of recreational marijuana has shown to significantly increase use among adolescents. A study of students in Washington found that among eighth and tenth graders, marijuana use significantly increased while perception of harmfulness decreased after legalization. In California, teen drug use, especially during pregnancy, may increase as legalization decreases the stigma and risk associated with use.

The approach to marijuana legalization in California has been closely tied to broad conversations about the need to ensure careful regulation with a special focus on the likely impacts of legalization on youth. The Blue Ribbon Commission on Marijuana, whose final report clearly stated that “youth are ... in need of the best protection and assistance the state can provide.”<sup>xv</sup> While this report frames many of the reasons a focus on youth is important in the legalization environment, the report does not consider the higher risk posed to youth who may be pregnant or parenting. First 5 seeks to work with youth-serving organizations to explore opportunities for collaboration, building on evidence that the earliest intervention efforts are the most successful and on the complementary capacities across the early childhood and youth development fields.

### *Developing a Public Health Framework for Marijuana*

Continuing to cultivate research on the marijuana-related health impacts on young children is imperative, particularly as the marijuana industry in California continues to emerge. Evidence from past decades of tobacco and alcohol control reveal that without a strong public health framework around the potential health impacts of marijuana could limit the effectiveness of drug prevention and intervention efforts. Dr. Stanton Glantz, who has researched the tobacco industry’s attacks on tobacco control, advocates for a comprehensive public health education and regulatory framework modeled on the California Tobacco Control Program, before the marijuana industry fully develops in California.<sup>xvi</sup>

## **FIRST 5 EDUCATION AND PREVENTION SERVICES**

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### *First 5 Educational Campaigns*

First 5 Mendocino was the first commission to address the health impacts of marijuana, with an education campaign specifically addressing the harmful effects of marijuana use during pregnancy on child development. The primary audience is expectant and recent mothers, particularly those with

average and high marijuana use. First 5 San Joaquin has developed updated materials with more recent research aimed at the same audiences. A statewide public awareness and education campaign could extend the reach and potentially change health outcomes for young children and their parents.

As directed under Proposition 64, the Department of Health Care Services is charged with creating a public information program about the harms of marijuana during pregnancy and while breastfeeding. First 5 encourages their role in doing so and would welcome the opportunity to share these materials with the nearly 800,000 children and their families served by First 5 last year. The First 5 Association is currently exploring ways to build on these campaigns to ensure that most vulnerable families are reached and served.

### *First 5 Prevention Services*

While there is an important role for targeted marijuana education for at-risk communities and families, the most likely and important vehicle for reaching families is and will continue to be the broader child development services and supports. Most notably these services include: home visiting for parents with newborns, developmental screenings with connections to community supports, and mental health services with an emphasis on trauma intervention and prevention.

First, home visiting is arguably the most evidenced-based practice for child neglect and abuse prevention, which is too often spurred by addiction and drug use. Offered a voluntary program (meaning a parent has invite a home visitor into their residence to receive services), home visiting focuses on helping parents where they feel concerned or have questions about their parenting styles/ skills, connecting families to resources, and helping parents understand and cope with toxic stress.

One nationally published study of the Nurse Family Partnership (NFP) documented children whose mothers did receive the intervention were less likely to report using cigarettes, alcohol, and marijuana, and were less likely to report having internalizing disorders such as anxiety and depression at 12 years of age. In addition to these specific effects on drug use in later life, NFP has documented cost-savings impacts including: increased employment for mothers, reductions in welfare and food stamps, and improved school readiness for children.

First 5 is California's largest funder of home visiting programs, investing nearly \$88 million and serving nearly 37,000 families across 44 counties in 2016 alone. Currently, state does not dedicate General Fund dollars towards home visitation programs, although they do administer a \$22 million federal program, Maternal, Infant, Early Childhood Home Visitation (MIECHV) program. MIECHV is currently up for reauthorization in Congress of September 2017.

Second, First 5s efforts to build comprehensive systems to identify and treat children with developmental delays can play a critical role in community-based education and outreach efforts that include information about marijuana use and health impacts on young children. The Help Me Grow system, funded by First 5, provides the necessary resources and referrals to address common developmental delays (e.g.: speech delays, behavioral problems, hearing and vision problems, and even autism) that often go undiagnosed until a child reaches elementary school. When caught early, developmental delays, caused by exposure to marijuana or otherwise, are easier to treat and more cost-effective than later interventions. Currently in 17 counties across the state, Help Me Grow is expanding thanks to local First 5 commissions' investments and provides the support to parents that will reduce the health impacts of marijuana on their young children.

Lastly, First 5 commissions have also invested deeply across California in evidence-based early childhood mental health services, which focus on the social-emotional needs of young children in the context of the critical role of parents and caregivers in a child's well-being. Maternal mental health is particularly critical, as maternal depression can impact a mother's ability to meet their infant's needs. Investments in early childhood mental health capacity expertise in child care and preschool programs, screening for maternal depression, child-parent play groups which focus on supporting healthy attachment, and ensuring that all professionals working with children can identify and support social-emotional learning are critical components of a robust early childhood system of care.

## **ADDITIONAL QUESTIONS**

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As First 5 Commissions begin to engage local partners – nurses, home visitors, preschool directors, family resource staff, and others – on the likely impacts of marijuana legalization on their work in communities, we are learning that there are many unanswered questions about the many ways young families will be impacted by the legalization of recreational marijuana, including:

- **Second-Hand Smoke Exposure:** How are infants and young children affected by second hand exposure to marijuana smoke?
- **Working with Intoxicated Parents:** How should preschool programs and other providers respond when parents appear to be marijuana intoxicated when they come to participate in programs or pick up their children? Can they send children home in cars with parents who may be intoxicated? What kinds of policies should they have in place?
- **What other programs – in addition to home visitation and direct parent education about prenatal exposure – might be effective interventions for families where drug use has been identified?**

## **A TIME FOR ACTION**

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A fully effective prevention approach to marijuana use by vulnerable populations, as outlined as a key goal in Proposition 64, requires an assessment of the critical role that *early* prevention plays. Decades of research shows that funding programs and services during the first years of life and during pregnancy have the greater potential to change one's trajectory and delivers the largest return on investment. Simply put, prevention of any nature cannot be fully accomplished without an early prevention component that focuses on our youngest children and their families.

Furthermore, emerging research shows the health impacts of marijuana on young children and pregnant women. Through the legalization, and thus the normalization, of marijuana, we anticipate that such health impacts will only increase unless otherwise addressed.

First 5 looks to support the public and community sectors in developing comprehensive, culturally competent, and locally-reinforced approaches to ensure that marijuana legalization unfolds in California without unintentionally creating new barriers to the healthy development of our state's most important resource, its children.

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