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**Marijuana as a Contributor to the Opioid Crisis and Homelessness and**

**to the Increase in Violence and Rioting that Has Spread in Major Cities:**

**Conclusive Evidence of Marijuana’s Harm to the Brain, Body, and the Environment**

**June 30, 2020**

**Marijuana with its active principle, (−)Δ9-trans-tetrahydrocannabinol (THC), is a low to high level hallucinogenic drug with numerous harmful mental and physical effects, including idiosyncratic effects on mental health and mental functioning. (Isbell et al., Psychopharmacologia, 1967). Unlike the minimal or moderate use of alcohol and tobacco, the use of even a small amount of marijuana affects a person’s mental functioning in a variety of predictable and unpredictable ways. For example, it has triggered psychoses and schizophrenia in normal individuals (Miller, 2018 and 2019).** **Contrary to popular belief, owing to the unpredictable effects it has been demonstrated to have, no amount of regulation could possibly ensure the “responsible” or “safe” use of this low to high level hallucinogen. Its use is contributing to the widespread violence that has spread in major U.S. cities. Its use is also fueling the opioid crisis and homelessness.**

I am an educator, researcher, and online publisher of [GordonDrugAbusePrevention.com](http://www.GordonDrugAbusePrevention.com). I currently instruct online courses for Auburn University Outreach on **“The Effects and Impacts of Marijuana ~ Policies and Approaches Addressing the Challenges” and on “Drug Abuse, Addiction, and the Opioid Crisis**”. I have worked in the drug abuse prevention field as a consultant to the National Institute of Mental Health and I formerly founded and headed a non-profit organization that worked to address the problem of drug taking among youth as well as adults. Much of my published work and many presentations on the topic can be found at <http://GordonDrugAbusePrevention.com>. **I urge you to reject the passage of any laws that accelerate rather than stop and reverse the legalization of the recreational use of marijuana in the United States. The legalization of marijuana by States has been in violation of Federal law (Gordon, 2014a and b, 2016). Marijuana should not have been allowed to be legalized by any state or U.S. jurisdiction and it should not be allowed to be further legalized if for no other reason than this: Marijuana with its active principle, (−)Δ9-trans-tetrahydrocannabinol (THC), is a low to high level hallucinogenic drug with numerous harmful mental and physical effects, including idiosyncratic effects on mental health and mental functioning (Isbell et al., Psychopharmacologia, 1967). Unlike the minimal or moderate use of alcohol and tobacco, the use of even a small amount of marijuana affects a person’s mental functioning in a variety of predictable and unpredictable ways. For example, it has triggered psychoses and schizophrenia in normal individuals (Miller, 2018 and 2019).** **Contrary to popular belief, owing to the unpredictable effects it has been demonstrated to have, no amount of regulation could possibly ensure the “responsible” or “safe” use of this low to high level hallucinogen.**

To familiarize yourselves with the impact that marijuana is having in the U.S. in the State of Colorado alone, I urge that you read the annual Rocky Mountain High Intensity Drug Trafficking Area Reports (RMHDTA, 2018 and 2019) and watch the Pueblo Physicians Code Red series of videos (2016). An excellent video to begin with is a presentation by Dr. Karen Randall (See <https://www.youtube.com/watch?v=Gs9X2qpGoUY> .) The Code Red series of videos features emergency room doctors in Colorado who describe in graphic detail what has been going on there since marijuana was legalized there, including psychotic breaks, violent behavior, suicidal depression and acts of suicide, the cannabis hyperemesis syndrome (violent screaming and vomiting), and miscarriages. It is imperative that you acquaint yourselves with the reports of the harmful and costly impacts of marijuana legalization in those jurisdictions where it has been legalized.

It is also imperative that those in roles of responsibility for the welfare of the public become familiar with the voluminous scientific research and longitudinal studies that have been done concerning marijuana, its effects of its use and the impacts that it is having on society. (Advocates of marijuana use and legalization and persons with vested interest in commercialization of marijuana tend either to be ignorant of the depth and breadth of the extensive scientific literature or dismiss what they know about the scientific evidence out of hand.) It is important for those in roles of responsibility for the public welfare to recognize that researchers established many decades ago that THC, the active principle of marijuana, causes “idiosyncratic psychotomimetic” effects in healthy human subjects (Isbell et al*.,* **Psychopharmacologia**, 1967). Surely no reasonable person knowing of these and subsequent studies linking THC to psychotomimetic effects would enact legislation that allowed and sanctioned the use of a substance that has been shown to have such a potential for harm. To do so would be to sanction playing Russian Roulette with one’s mental health and cognitive faculties, including concentration, memory, and reasoning and decision-making capabilities.

Since the first most notable study with THC on healthy human subjects was done, other studies, including longitudinal studies have established that marijuana use can trigger psychoses and schizophrenia, as well as suicidal depression, and suicides. For a compilation of such research, see [GordonDrugAbusePrevention.com](http://www.GordonDrugAbusePrevention.com). Also see Miller (2018 and 2019). It is imperative that you and your staff take time to study the growing research literature and not rely on the cherry-picked summaries of studies done decades ago involving users of marijuana that had extremely low levels of THC.

There is also a set of extremely important research findings, the significance of which have only recently begun to be assimilated by researchers. The research dots are just beginning to be connected and acknowledged. **This set of findings establish a definite connection between exposure to or use of marijuana and a predisposition to opioid use**. The Surgeon General has alluded to this phenomenon as a “priming of the brain”. Dr. Nora Volkow, head of the National Institute of Drug Abuse, has referred to it as a “sensitization of the brain”. **This connection between exposure to or use of marijuana and a predisposition to opioid use helps explain why the increase in the number of users in states in the U.S. legalizing marijuana has mirrored the increase in the use of opioid and opioid overdose deaths.** **Understanding the implications of these research findings may well convince a majority of thoughtful individuals that not only is today’s marijuana a definite “gateway” drug to other drugs, but also that today’s marijuana with its vastly higher THC content than the marijuana of Woodstock days, can be a seen as “speedway drug” to marijuana dependence and addiction, polydrug use, and opioid use and addiction.**

Several factors come into play regarding the marijuana/opioid connection. First of all, marijuana legalization has led to an exponential increase in marijuana use by those of all ages. Another factor is that the increasingly higher levels of THC levels of today’s marijuana. The higher the level of THC, the active principle of marijuana, the greater the deleterious impacts on the brain, not to mention the cardiovascular system, the respiratory system, the nervous system, the functioning of the liver, and more (See the FDA Submission by S. Reece, 2014, posted at <http://GordonDrugAbusePrevention.com> ). The research that many proponents of marijuana cite to try to make their case that marijuana is a “relatively harmless drug” has involved marijuana that had a very low THC content. Some who cite such research also tend to be unaware of or in denial concerning the growing body of research on the harmful effects of marijuana on the brain alone. **They have also been unaware of the research showing that exposure to or use of marijuana with THC increases the sensitization of the brain to opioids.** **Both animal and human studies are showing that the sensitization of those exposed to marijuana or those who use marijuana, results in their becoming pre-disposed to opioid use, and, hence, opioid addiction.**

This set of findings involves the results of studies on the brains of aborted or miscarried fetuses that have been exposed to marijuana in utero. Researchers found that the brains of the fetuses had undergone modifications not found in the brains of aborted or miscarried fetuses that were not exposed to marijuana**. Researchers have found “discrete opioid gene expression impairment in human fetal brain [to be] associated with maternal marijuana use”** (Wang et al., **Pharmacogenomics Journal,** 2006 and [Spano](https://www.ncbi.nlm.nih.gov/pubmed/?term=Spano%20MS%5BAuthor%5D&cauthor=true&cauthor_uid=16876136) et al., **Biol Psychiatry** 2007). A related set of animal research findings has shown that when animals are exposed in utero to marijuana, that when grown, they will opt for opioids when given a selection of things to choose from in an experimental setting. Those not so exposed do not opt for opioids (Cadoni et al., **Psychopharmacology**, Berl.,2001). The implications of such a connection between exposure to marijuana and the impairment of gene expression in the brains of human and animal fetuses exposed in utero would seem to mean that exposure to and/or use of marijuana might well have a like effect on the brain at all stages of its development. Indeed, studies by [Spano](https://www.ncbi.nlm.nih.gov/pubmed/?term=Spano%20MS%5BAuthor%5D&cauthor=true&cauthor_uid=16876136) et al. (**Biol. Psychiatry,** 2007) and Stropponi et al. (**European Neuropsychopharmacology**, 2014) indicate just such a connection. (Dr. Elizabeth Stuyt provides an overview of these research findings in a presentation at <https://www.youtube.com/watch?v=G8QpzZLgshw> . )

When considering effects on the brain, it is important to know that the brain is developing beginning at conception and continuing at least through age 25 and some experts say age 29 or 40. Others even say that the brain is still developing through age 50 and beyond. Proof of a hypothesis that marijuana will impair gene expression in all stages of brain development would provide an explanation for the observable predisposition of marijuana users, not to mention the progeny of users, to opioid use, addiction, and overdosing. Indeed, the U.S. Center for Disease Control has said that marijuana users are three times more likely to become addicted to heroin than non-marijuana users (CDC, 2015). Other researchers have in fact have found that “Cannabis use appears to increase rather than decrease the risk of developing nonmedical prescription opioid use and opioid use disorder” (Olfson et al., **American Journal of Psychiatry**, 2018). To complete the connecting of the “research” dots, studies have shown that a majority of those who die of heroin or fentanyl overdoses have on average a 10 – 15-year history of marijuana use (Sabet, Capitol Hill Briefing, January 11, 2018). An additional implication of these findings is that owing to the genotoxic harm done by THC, DNA damage is being passed on from one generation of users to another. This would help explain why so many children of users from the sixties and so many of their children and their children’s children have an apparent propensity for becoming ensnared in drug-taking behavior.

Some questions that may now come to mind are these: Why would any person in a role of public responsibility want to repeat commit the tragic error in judgment of legalizing marijuana, an error in judgment made by so many in a growing number of states in the U.S.? Why would those in positions of public responsibility in any nation believe that they could regulate the use of a substance that has so many known harmful effects, including the impairment of mental functioning and the lowering of IQs? Why would those entrusted with protecting the public good of any nation want to sanction the use of marijuana which is known to have unpredictable and seriously debilitating effects on mental health, effects that include brain anomalies, not to mention other physical anomalies, including anomalies involving the heart and other internal organs (including gastroschisis where a baby is born with its intestines outside of the stomach wall)? (S. Reece, 2014). Why would a nation consider, for even a minute, sanctioning the use of marijuana when scientists have now established that the brains of those exposed and those who use marijuana are sensitized to opioids and are predisposed to use opioids? Why would those in roles of public responsibility allow the use of marijuana that has resulted in untold costs in human suffering and incalculable damage done to the lives of individuals, to families and communities, and to the social fabric, as well as the body politic? Why would any nation take an action that would lead to the lowing of the IQs of those with developing brains and the diminished reasoning capabilities and brain power of all users of all ages? Why would any person in a role of public responsibility support policies that allow the use of marijuana? Why would any reasonable person support policies that have allowed those of all ages to be guinea pigs in a senseless human and social experiment that is now known to cause such great damage? Many in the U.S. are increasingly recognizing the experiment for what it is: an abysmal failure with tragic consequences for the lives of millions, not to mention the very future stability of the nation. Why would a nation enact any law that would result in spreading the use of marijuana and hence of opiates, now taking over 100 lives a day in the U.S.?

It bears noting that there are reasons that the use of heroin has increased in places where marijuana is legal. A key reason is that black marketers and cartels can easily sell marijuana for lower prices than state-sanctioned marijuana dispensaries that must include tax in the price. Black marketers can also sell heroin for less than black market marijuana (Many documentaries have noted how illegal trafficking has increased, not decreased with legalization. See also Randall, 2016, Code Red Series; & Gurman, as cited by Winter et al., 2017, **Journal of Drug Abuse**). The activity of the cartels and the black market has vastly increased in jurisdictions where marijuana can be purchased in “legitimate” government dispensaries.

For the sake of people everywhere, as well as generations yet unborn, it is imperative that public officials recognize how that the research findings cited here show that there is a definite connection between the legalization of marijuana, the increasing use of marijuana, the anomalies in the developing brains of those exposed to marijuana and of those using marijuana, the sensitization of those with developing brains to opioids, and the spreading epidemic of opioid use and addiction. The lowering of I.Q.s has also been established as has the fact that one in six youth who use marijuana becomes addicted and one in ten adults becomes addicted (NAS, 2017 and Hall, 2014). With higher and higher THC content, even more youth and adults can be expected to become addicted. Marijuana addiction can be as hard to overcome as heroin addiction. Ask the therapists who work with those who are addicted. Ask former users as well.

The vaping of THC is causing an increasing number of deaths and damaging the health of increasing numbers of persons. The phenomenon of cannabis hyperemesis syndrome is more and more widely reported. Severe damage to the kidneys and other organs can result from the painful, constant vomiting and dehydration. Death has even resulted. Toxicology assessments done on those who have committed suicide are showing that a majority have THC in their systems. (Regarding the latter see, Dr. Steven Simerville’s presentation at <https://www.youtube.com/watch?v=K4bcl9FqfIs> ).  Toxicology assessments of those involved in violent crimes, including mass shootings and terrorist bombing have revealed marijuana in their systems. (See Miller, 2018 and 2019; Berenson, 2019)

Why would anyone want to repeat a failed experiment and one that is doing so much irreparable damage, including damage to our DNA? (Such damage has been well established for decades. See Braude (1984), The annual Rocky Mountain High Intensity Drug Trafficking Area Reports (RMHDTA, 2018 and 2019) also provide a source of documentation of the many ways in which the legalization of marijuana experiment has failed, including impacts on health and safety and the proliferation of use among all age groups.

Tragically, the Federal government has failed to vigorously enforce the Federal Controlled Substances Act. They have allowed medical marijuana use to spread widely. They have just recently taken steps to alert the public concerning the harmful effects that medical marijuana is known to have. The Federal government has allowed the recreational use of marijuana in violation of Federal laws and international treaties to which the U.S. is a signatory (Gordon, 2014). For the most cogent arguments concerning the reasons why marijuana should remain a Schedule 1 drug and why Federal laws should be enforced, see Bertha Madras, Ph.D. and Dave Evans, Esq, and their contributions to a Brookings Debate at <https://www.brookings.edu/events/brookings-debate-should-the-federal-government-remove-marijuana-from-its-list-of-schedule-i-drugs/> .

The “cat is out of the bag”. What can be done now? What would be the responsible thing for those in roles of public responsibility to do? Turning around the nation’s drug crisis will require a “full court press” on the part of the President and the President’s appointees, Members of Congress, as well as all other public officials. The multi-pronged approach that needs to be taken might be seen as being similar to the approach that China had to take in order to quell the rampant use of opium that had plagued their country in previous decades. China eventually stopped the use of opium and had to work hard to undo the damage that had been done. The road back for China involved education, treatment, and rehabilitation. Portugal is another example of a nation that has indeed developed a multi-disciplinary approach that is making inroads into their drug use and addiction problems. Those who persist in sanctioning, and, hence, promoting the use of marijuana, will eventually have to do what can be done to address the damage that has been done, to undo the damage that can be undone, and to prevent further damage. The costs of that damage are incalculable and could never be covered by tax revenues from marijuana sales, revenues that Governor Christie has so appropriately called “blood money”. Recent studies in the U.S. shows that the costs for social and medical services alone far exceed the funds raised in tax revenues (SAM, 2018). The damage being done extends to the environment. The effects on the environment and the widespread damage being done to the ecology by marijuana “grows” both legal and illegal, are only noted here. Such damage seems to have escaped the attention of even most normally concerned environmentalists (Morgan, 2018a and 2018b). Beyond the consequences of marijuana use for human health, safety, and welfare; it is having incalculable impacts on society, business and industry, as well as property.

I hope that you will reject subjecting more citizens of the U.S. to such a seriously flawed and costly failed experiment, an experiment that is making some people rich while destroying the potential and the lives of untold numbers of others, seriously affecting productivity, while also dumbing down the electorate.

Marijuana use undermines the mental and physical health of current generations and is playing a major role in fueling the opioid epidemic. It is also affecting the health of those yet unborn. Indeed, it is affecting the reproductive health of both males and females. Miscarriages are now known to be associated with the use of marijuana by the father. Use of marijuana during pregnancy is the last thing a pregnant woman should do. While warnings regarding the use of thalidomide for morning sickness spread rapidly decades ago; warnings by government officials regarding the harm that follows from using marijuana have not been as loud. Magical and wishful thinking have tended to prevail among hundreds of thousands of women who have used marijuana during pregnancy and the misinformed individuals who have encouraged such use.

As individuals in roles of immense public responsibility, you are in a position not only to choose influence a wiser and more humane path and reject the further sanctioning and legalization of marijuana use and begin to take needed steps to reverse the legalization of marijuana in all jurisdictions in the nation. This can be and needs to be accomplished through keeping marijuana use illegal and making it once again illegal where it has been made legal. This can be accomplished through using the justice system to provide individuals with in lieu of incarceration options and in lieu of fine options, along with record expungement options if the users opt to accept support in ceasing their use of drugs (Gordon, 2016 and 2019).

Many examples of such alternatives be found in drug court programs and probation departments throughout the nation. Educators, law enforcement, emergency responders, emergency room physicians among many, many others, need to be able to refer users to a support system to help them get out to the drug-taking cycle. (For excellent insights into that cycle see the Volkow/Dalai Lama video, 2013, at <https://www.youtube.com/watch?v=1aLDyTgkTvY> and the Calderon-Abbo video, 2017, at at <https://cmbm.org/webinar/addiction-recovery-for-mind-and-body/> . Also see Dupont, 2018)

There are a multitude of programs that are helping those entrapped in the use of mind-altering and mood-altering substances. These include low to high level hallucinogens such as marijuana, psychoactive drugs, and opiates. There are numerous programs and approaches that can help entrapped individuals to overcome their dependence or addiction to these chemicals of enslavement. Multi-pronged approaches, such as those increasingly used in Portugal and similar in ways to those used in China during its struggles with opium, need to be employed in the U.S. Such non-punitive approaches can provide individuals the opportunity to become drug free. Individuals can become drug free through education and through taking part in early intervention and counselling programs, and, where needed, treatment and rehabilitation programs. Those in need should also be provided an array of social, employment, and housing services designed to help them recover from and successfully overcome the cycle of drug taking and addiction (Gordon, 2016 and 2019a and b).

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