it. At the time I thought it would not have a significant impact on the people I see. However, the highest concentration of THC in the plant at that time was 5% and there were no concentrates. Over the last 20 years, without any governmental regulation, the industry has been allowed to dramatically increase the concentration of THC to where the average in the plant is now 18.8% and 69.4% in the concentrates, such as wax, shatter, dab, vape oil, with some up to 95% THC.

While there is evidence that marijuana can be beneficial for some medical conditions, the research supporting this has been done with THC concentrations less than 10% in the smoked plant.[1] There is no legitimate research on the concentrates as a medical treatment and there is no research on 18 – 95% THC indicating it is efficacious for anything medical or safe for anyone. On the other hand, there are multiple studies from around the world showing serious problems with high potency THC including addiction, psychosis, depression, anxiety, sleep problems, suicide, and violence. Based on their experience, Dutch researchers have stated anything higher than 15% THC should be considered a hard drug, comparable to cocaine and ecstacy.[2]

Despite this lack of research on concentrates, the 2019 Colorado Regulated Marijuana Market Update[3] demonstrates an increasing amount of concentrates in both the medical and recreational market with a higher percentage in the medical market (34% versus 32%). This means that a physician may recommend a medical marijuana card for a patient and may even make recommendations about using something that is low in THC and higher in CBD, but there is no “prescription” with product type, amount, method of delivery, etc. So, the patient goes to the dispensary and purchases concentrates because of the belief “more potent is more efficacious”. This is the travesty of our current “medical marijuana”; people are dabbing with a blow torch to get their “medicine.”

Sadly, the fact that we call this “medical” makes people believe it is safe. Kids are increasingly using concentrates. The 2019 Health Kids Colorado Survey reported 10.2% of high school students using marijuana are using dab[4] compared to 3.7% of adults who use dab[5] (nearly three times higher rate). More kids and adults are ending up in the emergency room with psychotic symptoms, panic attacks, suicidal ideation, or cannabis hyperemesis syndrome because of using high potency THC.[6]

According to the 2019 Market Update,[3] Colorado has a much higher share of “heavy” marijuana consumers compared to the national average. Daily or near daily users constitute 6.1% of marijuana users in Colorado and they purchase 75.7% of the product. This is truly an industry profiting from addiction.

Before even considering adding recreational marijuana, Missouri should do better than we have in Colorado and first regulate your medical marijuana by following the science. Potency should be limited to less than 10 % THC. Concentrates, such as wax, shatter, dab have no place in medical dispensaries as there is no research demonstrating they are safe and effective for any medical condition. Medical marijuana should be on the Prescription Drug Monitoring Program. Prescribers should be fully educated regarding the down sides of marijuana and working within their scope of practice when making recommendations.

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Cybersecurity Update: Recent Ransomware Attacks Against Healthcare Providers

On October 28, 2020, the Cybersecurity and Infrastructure Security Agency (CISA), the Federal Bureau of Investigation (FBI), and the United States Department of Health and Human Services (HHS) issued Alert AA20-302A (Alert) which describes recent

ransomware attacks by criminal groups exploiting healthcare institutions and the distractions caused by the current pandemic and election cycle.

Of particular note is that healthcare providers across four different states have already fallen victim and that 400 more are reportedly on a list of targets circulating among criminal organizations. When ransomware penetrates a provider's network, it often encrypts data and deletes backups before the ransom request is issued. While it is debatable whether the ransom should be paid, most government agencies advise against doing so as such payments (1) incentivize the criminal activity and (2) do not guarantee recovery of data or the end of the ordeal. Cybercriminals are typically not good on their word and, even if they are, once PHI is encrypted by ransomware it is presumed compromised from a HIPAA perspective and triggers breach notifications obligations.

To help mitigate risk exposure: (1) healthcare providers must assume that ransomware is already within their networks; (2) executives must be ready to activate business continuity plans; and (3) IT departments must patch software, inspect audit logs and implement multifactor authentication across their systems. Additionally, providers should consider joining a healthcare Information Sharing and Analysis Center/Organization (ISAC/ISAO), which offers the opportunity to receive critical information and services to help manage the risks of ransomware. Providers should also adopt the "*3-2-1 Rule"* for backing up data which calls for *three* copies of all critical data sets, stored on at least *two* different types of media, and with at least *one* of the media formats stored offline.

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Submissions reflect readers' opinions and may be edited for length. Use in subject line: "For Publication"

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