COMMONWEALTH OF PENNSYLVANIA
HOUSE OF REPRESENTATIVES

HEALTH COMMITTEE
joint with the
JUDICIARY COMMITTEE
PUBLIC HEARING

ALLEGHENY COUNTY COURTHOUSE
436 GRANT STREET
GOLD ROOM #410
PITTSBURGH, PA 15219

WEDNESDAY, APRIL 29, 2015
10:00 A.M.

PUBLIC HEARING ON MEDICAL CANNABIS

COMMITTEE MEMBERS PRESENT:

REPRESENTATIVE MATTHEW BAKER, HEALTH MAJORITY CHAIRMAN
REPRESENTATIVE RONALD MARSICO, JUDICIARY MAJORITY CHAIRMAN
REPRESENTATIVE JIM COX
REPRESENTATIVE RICK SACCONE
REPRESENTATIVE TEDD C. NESBIT
REPRESENTATIVE BARRY J. JOZWIAK
REPRESENTATIVE JOHN LAWRENCE
REPRESENTATIVE FLORINDO J. FABRIZIO
REPRESENTATIVE JOSEPH A. PETRARCA
REPRESENTATIVE PAMELA DeLISSIO
REPRESENTATIVE GERALD MULLERY
REPRESENTATIVE KRISTIN HILL
REPRESENTATIVE VANESSA LOWERY-BROWN
REPRESENTATIVE DANIEL L. MILLER
REPRESENTATIVE TIM KRIEGER
SARAH SPEED
ABDOUL BARRY
WHITNEY KROSSE
TOM DYMEK

I N D E X

TESTIFIERS

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SUBMITTED WRITTEN TESTIMONY

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(See submitted written testimony and handouts online.)

P R O C E E D I N G S

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REPRESENTATIVE BAKER: Good morning, everyone. The hour of ten o'clock having arrived, the Joint Health and Judiciary Committee of the House of Representatives will come to order. We have a very tight schedule today, very ambitious line-up of testifiers.

Testifiers will kindly come to the table here. We do have a number of Skype presentations and testimony. We do want to try to move this along. If the questions become too voluminous, we are going to have to unfortunately limit those in order to get everybody in.

Some of us have traveled up to five hours to be here. We really need to move this ambitious agenda along. So I am going to waive any opening remarks and ask Chairman Marsico of the Judiciary Committee, Ron, if you have any opening remarks?

REPRESENTATIVE MARSICO: Thank you, Chairman. I just want to thank Allegheny County for having us here and all the testifiers to take the time to be here as well. I also want to recognize and welcome the students from Chartiers Valley High School Law and Governing class taking part. Dave did say that he's not related to Representative Dymek. I don't know if that's a good thing or a bad thing.

Welcome class, and welcome to this hearing. We appreciate the fact that you're taking the time to do this. It's educational and a fact-finding informational hearing, nothing about any particular legislation.

So testifiers are aware of that, and so we're going to thank, once again, Allegheny County and all the members that are here as well, and staff for putting this together. Thank you.

REPRESENTATIVE BAKER: Also this morning we have Minority Chairman Flo Fabrizio. Welcome Flo, any remarks?

REPRESENTATIVE FABRIZIO: No. I'll defer to you.

REPRESENTATIVE BAKER: We also have the Minority Chairman Joe Petrarca with the Judiciary Committee. Welcome Joe.

REPRESENTATIVE PETRARCA: Thank you, Matt, Chairman. I'm glad to be here. I'd like to welcome everyone, the citizens and the testifiers; and thank you for being here. This is the third of three hearings. I think our Committee, our combined Committee held the Judiciary Hearing here.

I think we heard a lot of things. I think we've seen some things that, to me, make a lot of sense, and some other things that maybe are going on in other

states that will help us draft legislation that will work.

I personally think it's time that we get a bill, a medical marijuana bill, before the legislation for a vote, and I, again, thank everyone for being here today. Thank you, Chairman.

REPRESENTATIVE BAKER: Thank you. We have a good representation, cross-section of the Commonwealth here. We have Members here at the front and also in the -- we have some Members in the front row here as well. We've run out of space up here.

But let's begin with our first testifier, Jeremiah A. Daley, executive director of the Philadelphia Camden High-Intensity Drug Trafficking Area. Welcome, sir.

MR. DALEY: Good morning, Mr. Chairman.

REPRESENTATIVE BAKER: You may proceed when you're ready.

MR. DALEY: Thank you. Good morning, again, Chairman and Chairman Baker.

MR. DYMEK: Your mike is not on.

MR. DALEY: The mike is not on. I would say it's on. Good morning, again, Chairman Marsico and Chairman Baker, Minority Chairman Petrarca and Fabrizio, and Members of the Judiciary and Health Committees.

I am Jeremiah Daley, and I'm the executive director of the Philadelphia Camden High-Intensity Drug Trafficking Area. HIDTA, as it's known for short, is a federally-funded program authorized under the Office of National Drug Control Policy since 1989.

The office has established 28 regions around the nation, regions that have been designated by the director of ONDCP, the centers of illegal distribution, production, cultivation, transportation, and abuse of controlled substances.

There are three counties in Pennsylvania that have been so designated by ONDCP: Philadelphia, Chester and Delaware Counties, all in the south-eastern part.

I've submitted a written prepared testimony for the Committee Members to peruse. And in the interest of your time and allowing time for questions, I'll just summarize the testimony that I've given in that written statement this morning in the hope that we can get the most information as possible.

I first and foremost want to thank the Committee for allowing me to testify about this crucial issue and the impact of compassionate youth programs where medical marijuana programs in other states where either legislation or voter referendum have permitted persons effected by certain illnesses or conditions or those who

care for them to cultivate, possess, consume, or administer marijuana and products derived from marijuana or infused with marijuana in an effort to curb or control the effect of those maladies.

I'm not here to express any hard and fast oppositions to the provisions of therapeutic use of marijuana. Let me say that upfront. People with serious, debilitating, life-impairing diseases and conditions need whatever treatment is available.

But I will try to focus on some of the foibles that have occurred in other states where medical marijuana has been in effect and see if I can offer any insights to the Committee that might benefit the Commonwealth if the legislature should choose to go forward with the medical marijuana law.

There's lessons to be learned, I guess, as well as some best practices. Next slide, please.

REPRESENTATIVE BAKER: There are no slides.

MR. DALEY: Oh, okay. At this time, there's 23 states and the District of Columbia that have established some provisions for possession and use of marijuana for medical and therapeutic purposes.

It seems that no two of these provisions are alike across the country. Some are very highly regulated and restricted in their provisions. Some are pretty much

a free-market state.

All, of course, are in contravention of federal law, the Controlled Substances Act of 1970, which prescribes marijuana and its components known as "cannabinoids," and says, "A Schedule I controlled substance has no proven medical value".

That said, in some regard, federal regulation to marijuana has been in effect since the Pure Food and Drug Act of 1906 when, at that time, over-the-counter and patent medicines were raising increasing concerns about product safety and efficacy-yielding legislatures across the country to impose and increasingly restricted control at the state level first and then subsequently at the federal level.

And now it seems like that process is reversing itself. The state legislatures are taking the vanguard in legalizing and/or permitting medical marijuana exceptions across the country.

Our first and probably worst example is California. California has had a medical marijuana provision since the passage of Proposition 215 in the voter referendum in 1996 and has subsequently been amended by Senate Bill 40 in 2003.

The medical marijuana program there is the longest and possibly the largest and most contentious of

them all. At this point, California's Department of Public Health develops policy, procedures, protocols, regulations, and forms and sets fees for the counties to issue medical marijuana program participants' user IDs on a voluntary basis.

It does not actively regulate the medical marijuana growers, dispensaries, collectives, and cooperatives. In fact, it divests itself of pretty much all enforcement of the law, leaving that responsibility to the state attorney general's office and to the various county district attorneys and municipalities.

Since 2004, some 80,000 medical marijuana ID cards, each allowed for one year, have been issued by the state; and most of those have been renewed. In fact, there are an estimated 572,000 medical marijuana users in the state that has created a medical marijuana market valued at $1.8 billion annually despite the fact that the law does not permit the for-profit commercial cultivation of distribution of marijuana for that purpose.

As for those who are using medical marijuana, research from the Golden State indicates that the average user is 32 years old, started using marijuana at age 19, and half or more of those medical marijuana users also use cocaine or methamphetamine.

The conditions for which they've applied for

and use marijuana, two percent have cancer, one percent apply later to the symptoms related to HIV and AIDS, and 94 percent apply because of chronic or severe pain, a condition for which cannabis is not particularly well-known to be effective.

I won't call the situation in California a return of the Wild, Wild West, but one thing seems apparent. The absence of a clear regulatory process has led to a chaotic marijuana marketplace there.

Since SB 40 was passed, a plethora of criminal and civil actions seeking clarity on the law have been filed and heard resulting in a quagmire of conflicting decisions by courts at the state and federal levels.

What also seems clear is that the state's decision permitting cannabis to be used upon a doctor's recommendation are but the first steps to commercialization, decriminalization, and, ultimately, full legalization of marijuana for recreational use.

The huge profits generated by these stores and the value of their inventory presented dangerous, that the source has become a magnet for crime, which jeopardizes the safety of nearby residents and especially children.

Adding to this issue, it's not exactly clear what is a dispensary. In California, it does not have to be in a fixed location. Mobile delivery of medical

marijuana and products is permitted. And some dispensary operators operate exclusively from vehicles.

This lack of clarity as to who is permitted to do what with regards to medical marijuana in California is also frustrating the district attorneys there.

When it comes to the enforcement of the state's law, California's local prosecutors lack either the support or resources to prosecute commercial operations, according to one.

The federal government's somewhat schizophrenic stance doesn't help matters either. In 2009, the recently retired Attorney General Eric Holder issued guidance to federal law enforcement. The DOJ would not aggressively pursue criminal prosecutions for certain activities involving marijuana and states that had medical marijuana laws in effect.

With those on the ground in California, they've found this permissive atmosphere conducive to exploitation, and a crack-down by the four U.S. attorneys in the state began.

Benjamin Wagner, the U.S. Attorney for the Eastern District of California, put it well, "Large commercial operations cloak their money-making activities in the guise of helping sick people when, in fact, they are helping themselves."

So the more pernicious aspects of commercialization have been reported following the release of the sampling of Colorado's commercial marijuana operations.

The 2014 examination of 600 strains of marijuana cultivated by dozens of growers identified three significant conclusions: Commercially-produced marijuana is far more potent than naturally-occurring pot. The THC levels, the component marijuana that creates the euphoric psychoactive effects, upwards of 30 times as great.

At the same time, very low levels of cannabinoidal, I will always mispronounce that word, cannabinoidal, the component for which some evidence exists of being a therapeutic value with persons with some neurological, neuromuscular, and emotional disorders, were detected in most samples, as low as one tenth of one percent.

And lastly, much of the marijuana contains significant levels of contaminants; specifically mold, fungi, heavy metals, and pesticides. I don't find this terribly surprising because it's all about making money.

The producers of marijuana, commercial producers, are relying on growing techniques that maximize harvest, maximize THC potencies that produce a good high, and maximize profitability.

Said another U.S. attorney in California, "California is exploiting not just marijuana, but all the serious repercussions that come with it, including a significant public safety issue and, perhaps, irreputable harm to our youth".

Among other states with some significant history are Colorado, Oregon, and Michigan. My colleagues at the Rocky Mountain High have undertaken an examination of marijuana's impact in Colorado where medical marijuana has been available since 2001.

Up until 2008, the medical marijuana in Colorado was fairly limited. About 6,000 people had applied for permits, and the impact was relatively negligible.

But a 2007 court ruling looked at provisions setting a maximum of five patients per caregiver combined with federal government announcement that it would not aggressively enforce federal laws set the stage for an explosion of new medical pot applicants and dispensaries; 41,000 users registered at the end of 2009, 900 registered as caregivers, one with 1,200 patients by himself by mid 2010.

Later that year, Colorado's legislature authorized commercial dispensaries to act as medical marijuana centers. And by year's end, 532 dispensaries

were licensed; and 108,000 patients registered, 94 percent reporting the major complaint being severe pain as a qualifying reason.

As of October of last year, the first full year of legalized recreational marijuana in Colorado, there were nearly 112,000 registered medical marijuana users or 2.1 percent of the state's population.

Impacts of this enormous growth in the marijuana industry on Colorado's traffic safety and youth and children have been chronicled. Traffic fatalities involving operators testing positive for marijuana have doubled between '07 and '12. In that same period, most drug-driving arrests involved marijuana with 25 to 45 percent involving marijuana alone.

Youth access to marijuana appears to have increased as well. In 2012, Colorado youth between 12 and 17 years old have reported being current marijuana users. 1 in 10 were found to be 40 percent higher than the national averages.

Drug-related school suspensions and expulsions, a vast majority being from apparent marijuana violations, increased fourfold between school years 2008 and 2011.

Even younger children are endangered. The number of marijuana-related exposures of children from zero to five years of age increased 268 percent from 2006

to 2013.

The potency of marijuana has also skyrocketed as THC levels soared from an average of 4 percent to over 12 percent on average between 1995 and 2013.

Consequences are also noted in the increase of marijuana related to emergency room visits, up 57 percent from 2011, 2013, and hospital admissions up 82 percent from 2008 to 2013.

The impacts are not limited to Colorado or California either. Highway interdictions of Colorado and California medical marijuana destined for other states increased almost 400 percent between 2008 and 2013, while partial treatment interdictions, those sent by U.S. Mail alone, not FedEx, not UPS, jumped 1,280 percent during that same period. Those parcels were destined for 33 other states, including Pennsylvania.

Two neighboring state's attorney generals in Oklahoma and Nebraska are going so far as to file suit against Colorado citing that the commercialized medical marijuana system there violates the Supremacy Clause of the United States Constitution, and the matter is under review by the Supreme Court.

Other states with extended experience and a significantly large percentage of their population's registered medical marijuana users include Oregon,

Washington, Maine, and Michigan.

All those states have experienced similar issues with the operation and regulation of dispensaries, the lack of consistent registration of patients, and a diversion of product to nonapproved users and other states, according to my fellow HIDTA directors in those states.

Not much information is available yet from our closest neighboring states, Delaware, Maryland, New Jersey, and New York, who have been enacted, but in most cases not implemented their medical marijuana provisions.

Without getting into a whole lot of detail, none of Delaware, Maryland, or New York is really operational yet; but New Jersey's is. They registered nearly 1,700 medical marijuana users. That law became effective in 2010 but kind of stalled because of a dispute between the governor and the legislature there and licensing and placing alternative treatment centers.

As of late 2014, though, three nonprofit alternative treatment centers are now operating, and three more are pending. No additional applications are being accepted at this point.

I would note that we have never seen the diversion of New Jersey medical marijuana to our

region, as closely regulated provisions of their program limitations to two ounces of marijuana every 30 days. Also, qualifying minors are allowed only to be dispensed cannabis-infused edible projects, not actual leafy marijuana.

In summary, I certainly want Pennsylvanians who are impacted by diseases and conditions that cause great degradation of their quality of life to have access to the most effective forms of treatment available.

However, at the same time, we also have a responsibility to ensure that the quality of life for all citizens of the Commonwealth is not adversely impacted and to be especially careful to protect our children from exposure to marijuana and its marketing.

To these ends, I have several recommendations. First, grow operations and dispensaries should be limited in number, widen geographically dispersed, and nonprofit in nature with operators who are carefully vetted and limited in the amount of marijuana products that can be cultivated, stockpiled, and dispensed.

Secondly, mobile delivery should be prohibited, and caregivers should be limited in the number of patients for whom they may act in such capacity.

Third, municipalities, as well as the Commonwealth, must be empowered to license and set zoning requirements for such operations and any marketing or advertising they conduct be regulated.

Next, physicians must receive continuing education on the therapeutic uses for cannabis-containing products on an ongoing basis and must have and maintain a bona fide, ongoing doctor/patient relationship of patients to whom referrals to a dispensary are made.

Mandatory registration of qualified patients and the issuance of tamper-proof photo ID cards must be included with annual renewal requirements that include continuing physician certification of their needs.

A defined list of illnesses and conditions for which medical marijuana is permitted to be dispensed and a defined maximum amount to be dispensed per month should be established by the Commonwealth's Physician General in concert with the Department of Drug and Alcohol programs.

The Attorney General and the county district attorney should be empowered to prosecute all persons or entities who are in violation of the medical marijuana provisions that may be enacted and established and civil and criminal penalties for violations

established as well.

Periodic reassessment of the law and regulations must occur, and some subset provisions should be built into the law that would require reauthorization after no more than five years of being in effect.

Finally, any revenues collected from taxes or fees that might be imposed should be used only to provide the necessary implementation, administration, enforcement, and monitoring the law; and any excess revenues be appropriated for substance abuse prevention and treatment purposes.

I would urge this Committee and our legislation to continue the measured approach in considering whether medical marijuana is right for Pennsylvania and to give careful consideration to the lessons learned from other states which have had such difficult times with their programs.

With that said, I would welcome any questions that the Committee's Members may have of me. I thank you very much for your attention this morning.

REPRESENTATIVE BAKER: Thank you very much, sir, for your testimony. I am particularly compelled to comment on the impacts on Page 5 that you mentioned regarding the enormous growth in Colorado's traffic safety, youth and children traffic fatalities, and drunk

driving arrests.

Youth access to marijuana appears to have increased dramatically. I'm very concerned about the unintended consequences that have resulted there in Colorado. I presume you've been in contact with your HIDTA counterparts in Colorado.

REPRESENTATIVE MARSICO: In Colorado, California, Oregon, Washington, Michigan, and all the other states. In pretty much everywhere that there is a medical marijuana law in effect, there was also a High-Intensity Drug Trafficking Area Urban. We communicate regularly.

I want to make sure we don't confuse, you know, coincidence and correlation and causation. The High-Intensity Drug Trafficking Areas were, by and large, in place long before the medical marijuana laws were. But none the less.

REPRESENTATIVE BAKER: Thank you. I appreciate your cautionary summation in terms of moving forward with consideration of this. Thank you very much. Any other questions? Representative DeLissio?

REPRESENTATIVE DeLISSIO: Thank you, Mr. Chairman. Just quickly, if they're in here, if not, maybe they can be submitted subsequently. Those percentages, increases that you quoted, percentage

increases in traffic deaths, what the Chairman was just saying, are there numbers that go with that, please?

REPRESENTATIVE MARSICO: Yes. Most of that information was derived from a report at the Rocky Mountain High-Intensity Drug Trafficking Area dealing with the impact from Colorado. That's the source of information for them. And I will gladly provide the Committee with a copy of that electronically.

REPRESENTATIVE DeLISSIO: Thank you. Because you can have two instances that double to four, and that's a 50-percent increase. So some of the percentages sounded -- I'd be curious as to what the absolute numbers are.

MR. DALEY: Understood.

REPRESENTATIVE DeLISSIO: Thank you.

REPRESENTATIVE BAKER: If you would be so kind to provide that information to us at your convenience, we would love to see that.

MR. DALEY: Yes, sir.

REPRESENTATIVE BAKER: Thank you, sir. Executive director of the Health Committee and legal counsel, Whitney Krosse.

MS. KROSSE: I think this is a follow-up to actually the line of questions that both Representatives have asked you. Do you know if the marijuana-related exposures for the children from zero to five has increased

substantially, is that related to the use by children after the development of -- I'm loud enough, anyway. Is that related to compassionate use, the CBD oil exposure? Is that what that's -- or --

MR. DALEY: From my understanding of it, the majority of it extended from accidental exposures rather than therapeutic exposures, primarily with edibles. You know, the pastries, the cookies, the candies, things like that that are attractive to children. I left some slides here that show some illustrations of how it's being marketed in California and Colorado and other places so that it mimics candy.

MS. KROSSE: I think a lot of us have heard those news reports. I just want to know if they were only accidental exposures or these were marijuana-related exposures.

MR. DALEY: These are primarily accidental exposure. And just as an aside, one of the data points that I didn't put in the report was that veterinary visits have increased as well. Pets are consuming these edibles, too, overdosing as well. And it has become a problem.

MS. KROSSE: Thank you.

REPRESENTATIVE BAKER: Any other questions? Representative Miller, you can take a mike. That would be great.

REPRESENTATIVE MILLER: Thank you for your testimony. I just wanted to be clear with what you were saying. When I keep hearing "overdosing," of course, to me, I'm thinking life-threatening, the person is, perhaps, not going to make it.

And I'm wondering when you keep using "overdosing," are you saying that the overdoses that you're referencing, that people are dying from them?

MR. DALEY: No, sir, not at all. To my knowledge, as a result of -- let's phrase it this way: THC intoxication, okay, THC intoxication, to my knowledge, has never been responsible for a death, itself.

(Applause.)

MR. DALEY: To that end, if I may --

REPRESENTATIVE BAKER: Excuse me, sir. We do need to set some construct and rules in this room. We will not -- we will be asking you to leave, or we will have security escort you out of the room if there is another outburst of that kind of applause, if there are boos, if there's any kind of -- we're going to have a very civil testimonial --

UNIDENTIFIED SPEAKER: Neanderthal, Neanderthal.

REPRESENTATIVE BAKER: Please have this gentleman removed. We will not have outbursts. We're

going to have a civil construct hearing in terms of the testimony.

THE SECURITY OFFICER: The gentleman here?

REPRESENTATIVE BAKER: Yes.

UNIDENTIFIED SPEAKER: Since you're taking him out, I'll go, too. There's a conflict of interest here.

UNIDENTIFIED SPEAKER: There's no -- there is absolutely no interest, no other testimony to contradict this or any other point of view up here. This is ridiculous. Get with the program. And look these kids in the eye who need help now, and tell them that they can't have this for their epilepsy. Look them in the eye. Go ahead, applaud. Come on with me. This is a farce.

REPRESENTATIVE BAKER: I'm very, very sorry, Mr. Daley. Yes, Representative Miller.

REPRESENTATIVE MILLER: Thank you, Mr. Chairman. One last question. Sir, on Page 4 of your testimony, you referenced a quote saying that "large commercial operations cloak their money-making activities and the guise of helping sick people when, in fact, they are helping themselves."

In my mind, perhaps you can correct me, in many cases, my thought is that's no different than many pharmaceutical products and companies that are in the same game of helping sick people. Can you tell me why,

perhaps, I'm wrong and this quote would only be used in the sentence that you meant it in relation to marijuana?

MR. DALEY: Well, that sentence, in fact, is a quote from a United States attorney in California. It's not my words. It's hers, but I thought they were pretty telling words.

What we have seen in the states that have had the longest history with medical marijuana as well as now legal marijuana in a few of these states as well is exploitation, basically, of the marketplace and the lack of controls that were placed on it.

I am a capitalist. I do not have any issue with people making money. I do have problems with people making money that disregard the interests of others in the community, and I think really that's what I want to ensure, I hope that the legislature will ensure, is that the Commonwealth's interest as a whole, the individual community members of the citizens of the Commonwealth, their interests are protected as well as any other commercial interests that have evolved, and that the appropriate level of regulation and oversight is put in place to ensure that we don't have a Wild, Wild West kind of market like is going on in Colorado and California.

REPRESENTATIVE MILLER: Thank you, sir.

REPRESENTATIVE BAKER: You're welcome,

Representative Miller. Once again, I apologize for the outbursts. If you could provide those statistics for us, we would really appreciate it.

A particular concern I have is the traffic fatalities involving operators testing positive for marijuana that doubled between 2007 and 2012, very, very concerned about that drunk-driving problem.

MR. DALEY: If I may, sir, that is I guess counter-intuitive because overall, nationally and in Colorado both, traffic fatalities as a whole are declining. So those numbers probably, to some degree, under represent the significance or the impact of the drunk-driving effect involving marijuana in those states.

REPRESENTATIVE BAKER: Thank you very, very much. Any other questions? Sara, Executive Director.

MS. SPEED: You may not have the answer to this, but you touched on adulteration of the product that was beginning. Are you aware of any states that are arguing like quality control checks on the product, itself? We heard a lot of testimony about who and how and where but not a lot about checking the product before it goes out to people.

MR. DALEY: From what I have read, New Jersey, Connecticut, New York, and I can't swear to Michigan maybe doing it, but certainly those three that I mentioned have

implemented quality control requirements as part of the regulations.

MS. SPEED: Thank you.

REPRESENTATIVE BAKER: Thank you. Thank you very much, Mr. Daley. We appreciate your testimony and your proffering any future documents in the future.

MR. DALEY: Thank you very much, Chairman. Thank you, all.

REPRESENTATIVE BAKER: Thank you very much. I want to applaud the rest of the folks in the room. The other two hearings that we've had have been very civil and very well-prepared, and we've had testimonies that have been tremendous from all sides of this issue; and I want to applaud every one of you for respecting the civil process by which we seek information on many issues. So thank you very, very much.

Our next testifier -- and the reason -- one of the reasons why we, particularly today, we are trying to stay on schedule is we have a number, six or seven Skypes, and so we're -- people are around the country waiting to make their presentations in a timely fashion.

And the next person we have will be Skyping with us here. Hopefully everything is working fine. Dr. Alan Shackelford. Dr. Shackelford, are you with us? Hi, Dr. Shackelford. Can you hear us? We can't hear

you. So please stand by, and hopefully -- is your mike on, sir? I'm sorry. We're still not being able to hear you. Dr. Shackelford? Please stand by. The visual is good; the sound, nonexistent.

Due to technical difficulties, we are going to try to move to the next testifier, hopefully be able to come back to Dr. Shackelford.

The next person, when you're ready, will be Dr. Amy Brooks-Kayal, President of the American Epilepsy Society. I see you smiling. I hope we can connect with the doctor. We cannot reach the second doctor, unfortunately.

We have Karmen Hanson available or Deborah Moss? Why don't we go to Deborah Moss since Deborah is here. Thank you, Deborah. Deborah Moss, M.D., MPH, Pennsylvania Chapter of the American Academy of Pediatrics. Welcome. You may proceed.

DR. MOSS: Okay. Thank you. I do have slides if they're ready. Otherwise, I can just --

MS. KROSSE: We can set them up.

DR. MOSS: I can get started. Thank you so much for the opportunity to be --

REPRESENTATIVE BAKER: The computer is crashing. I'm sorry. We don't have any slides. The Members will be provided if they don't have them already.

MS. KROSSE: They do. The slides are in the testimony.

REPRESENTATIVE BAKER: The slides are here. You may want to grab your presentation then. You may proceed.

DR. MOSS: Thank you. My name is Dr. Deborah Moss. I'm a pediatrician --

REPRESENTATIVE BAKER: Closer, please.

DR. MOSS: -- a pediatrician in the Division of General Academic Pediatrics at Children's Hospital in Pittsburgh. I've been in practice for over 20 years, and I'm also speaking on behalf of the Pennsylvania Chapter of the American Academy of Pediatrics. I sit on the Executive Board for that Chapter.

I would like to refocus my comments today on the sort of pediatric impact of potential legislation around medical marijuana.

My first slide was really just showing a picture of the states that had passed laws related to medical marijuana just to highlight the issue. This is sort of a national legislative concern that we're grappling with as a country, and the next slide is really showing the number of states and where they're located that are considering laws related to medical marijuana.

So it's really a critical topic and a

hot topic and something that is very important for us to become informed and educated about. So that's what I hope I can provide some information to you about and the difficult decisions that you have to make.

I want to start with some definitions and clarifications, because there's a lot of terminology that's thrown around. Sometimes it's used inconsistently, and it can be confusing when we're trying to think about specifics.

So "marijuana" and "cannabis" are terms used interchangeably to refer to the specific plant called cannabis ativa -- sativa, excuse me. That is one species of many species and subspecies of the cannabis plant.

The cannabis plant, itself, is made up of numerous, hundreds of chemical compounds and their derivatives. One of which is tetrahydrocannabinol, which is also known as THC, a medicine chemical compound within the plant that has psychoactive effects and some of the potential medicinal effects.

There are also -- I don't have it here on the slide, but cannabinoidal is an oil extract from the plant that is also thought to have medicinal effects. So those are two of the chemical compounds.

And marijuana, the plant, has really

been used for medicinal purposes and recreational purposes, and I'll be sort of focusing on the medicinal potentials.

The next clarification slide really has to do with making sure we're clear on the difference between medical marijuana and cannabinoids. Medical marijuana is really the first use of the plant for medicinal purposes for medical conditions. Its availability for doctors to recommend is determined by popular vote.

In contrast to cannabinoids, which are pharmaceutical products, they're synthetic formulations of the chemical compound THC, tetrahydrocannabinol. And those products, which are synthetic, are FDA-approved. So there's sort of one big difference.

The next set of differences is sort of how they're used. Medical marijuana is primarily delivered by smoke inhalation, although it can be used orally; and cannabinoids typically are consumed orally. There are two pill forms right now, Marinol and Cesamet, that are capsular pill forms of the pharmaceutical products of cannabinoids.

The important point there is that the smoking, as the inhalation or delivery method of medical marijuana, is complicated because it causes a variability

of dosing. So the dosing is really dependent on the inhalation strength of the individual smoking it. So you can't really guarantee or know exactly what dose someone is going to get by the smoking method. Again, medical marijuana is recommended by a physician. Cannabinoids are prescribed understanding the prescribing procedures.

The next point is really important that I already alluded to, and that is that medical marijuana is not only -- the dosing is not only an inconsistent variable and unpredictable based on being smoked, the delivery method, but also because it's a plant. The way it's grown, the way it's bred, the way it's cultivated, affects the concentration of the THC component in the plant.

So, again, the dosing based on the cultivation of the plant is a variable. So there's two reasons why it's very hard to know what dose someone can get, and it's hard to guarantee whether or not it's going to be at a safe dose or an effective dose.

And the final major difference between medical marijuana cannabinoids is that medical marijuana has been difficult to study for a variety of reasons which I'll touch on in a second. So that really its efficacy, its effectiveness in a perfect situation, that's what efficacy is, is really poorly defined because it hasn't

been able to be studied. There are really no vigorous randomized controlled trials of medical marijuana.

The cannabinoids, the pharmaceutical products, have been studied; and we do know of their efficacy for a number of medical conditions. In adults only they've been studied, I should just say that.

I did want to touch on why it has been so difficult to study marijuana, because this might come up down the road. And partly, marijuana is a Schedule I drug. That's based on the Federal Controlled Substance Act.

And a Schedule I drug is classified as such when it is determined that it has a high potential for abuse, it has no currently accepted medical use in the country, and it lacks safety for use as a drug under medical supervision.

So for those reasons, it has been determined or classified as a Schedule I drug. But as a Schedule I drug, it's very difficult for researchers to get access to it and study it. We have to sort of jump through a lot of hoops, and so that has been a barrier for our learning about the potential efficacy and safety of medical marijuana.

I do want to just back up for one minute and state that there have been a lot of studies

in the cannabinoids, and there's also antidotal data about why we're even having this discussion, that there are some very strong proposed benefits, potential medicinal benefits, of the plant-based, natural marijuana.

There's considerable interest in its use as a strong antiemetic, especially when other treatments have failed. It has been used in AIDS Wasting Syndrome, severe pain management, and it has been thought to improve seizure frequency in certain rare and severe seizure disorders.

For these reasons, we really do want to find out if it could be helpful to a number of populations of patients who could use it. Unfortunately, really, the data right now isn't in, that we have sort of personal stories, self-reports, antidotes, and some nonrigorous studies. So that really is, I think, our key limiting factor right now.

I will state that we do have a Pennsylvania researcher, Eric Marsh, at Children's Hospital of Philadelphia who was just approved to study medical marijuana for a seizure disorder, and he's doing Phase III trials. So that really will give us some very important information in the near future.

So I then want to move on to my final few slides which really try to sort of pull out the issues

from a pediatric perspective about some of the potential risks of medical marijuana. A, we've already stated that there are no published studies. So that's one concern. We just don't know the efficacy of it as a medication in children.

Secondly, while there have been some studies done, they've all been done on adults; and we know that children respond differently to medications.

One thing that's important to point out, since THC has psychoactive effects, which is effects on the brain, is that children's brains are still developing and forming. So we really don't know how this kind of a substance might impact either positively or negatively the developing brain.

There has been some really interesting recent work on adolescent brain development. There have been MRI imaging studies looking at the structure and size of the brain. It really has -- we've learned recently that the prefrontal cortex, that's the front of the brain that really has to do with impulse control, isn't fully formed in its size and structure until the early 20's of a child's life. So that's pretty late. So we really want to be thinking about what could happen to the brain.

I will tell you that the American Academy of Neurology put out a statement that I'll just read and

quote saying that, "They did not advocate for legalization of marijuana-based products for use in neurologic disorders at this time, as further research is needed to determine the benefits and safety of such products. This is of paramount importance when marijuana-based products are used in patients with underlying neurologic disorders and particularly in children whose developing brains may be more vulnerable to toxic effects of marijuana." So that was their cautionary statement.

There have been other studies about marijuana's use and its effect on attention, memory, motivation. And most recently, there have been IQ studies showing that there is a dose/relationship effect between the duration of marijuana use, the intensity of use, and the diminishment of IQ levels. So that has been a concern.

And the last concern, again, the early studies have raised questions about is that marijuana usage in recreational use has been associated with increased rates of supereffective disorder, so thought disorders.

The other issues from a pediatric perspective have already been raised by the previous speaker. Just to reiterate, that marijuana, especially in edible forms, has been associated with increased poisoning

risks.

And the risk of poisoning, as the previous speaker said, there have been no fatalities; but there are situations in which case are attacks, if they lose their balance, they have respiratory depression, they have low blood pressure, and they have had to be treated for that. And also, there have been some anxiety and panic attacks and hallucinations as a result of overdosing. So it's something to be mindful of.

And part of the issue is the packaging, that unlike a medication that is under regulation has to be in a safety-approved package. These are not safety-approved packages, so the overdosing potential is a bit greater.

The other two issues are that there is a risk of smoking. In general, once you combust something, the risk of smoking on the lungs is proven to be negative. So just smoking marijuana has its own pulmonary or lung effects. And there really haven't been any FDA-approved medicines that are taken by inhalation for that reason.

And really, to finish, I just wanted to read the American Academy Pediatric's Physician Statement to summarize the pediatric perspective. They have three points. First, the American Academy of

Pediatrics opposes medical marijuana outside the regulatory process of the U.S. Food and Drug Administration.

The second is that the Academy recognizes that antidotal accounts have shown that certain marijuana compounds could benefit some children of chronic life-limiting debilitating conditions.

And for this reason, the American Academy of Pediatrics strongly supports research and development of pharmaceutical cannabinoids and supports the review of policies promoting research on the medical use of these compounds.

The AP further recommends changing marijuana from a drug enforcement agency Schedule I to a Schedule II drug to allow its more wide -- to allow greater study of this substance.

And finally, in states where marijuana is sold, either for medical or recreational purposes, regulations should be enacted to ensure that marijuana in all forms is distributed in child-proof packaging to prevent accidental ingesting.

I think that's it for my comments, and I thank you for your attention; and I welcome any questions.

REPRESENTATIVE BAKER: We do have time for

maybe one or two questions. Just to clarify your position, really, the position of the American Academy of Pediatrics and the American Academy of Neurology, it sounds like you're on the same page with the same position, that both the American Academy of Neurology and the American Academy of Pediatrics oppose medical marijuana legalization outside the FDA process. Is that correct?

DR. MOSS: That is correct. And I'm not stating a position. I just wanted to provide information.

REPRESENTATIVE BAKER: Thank you. Thank you very much. Representative Saccone is recognized.

REPRESENTATIVE SACCONE: Thank you, Mr. Chairman. Thank you for your testimony. I just want to make sure I understand this, not being a medical person. But you said in here that possible risks include -- that marijuana has been associated with the decrease in IQ and increased rate of supereffective disorders. Is that based on studies that have been done, considering not much studies happened?

DR. MOSS: Correct. That's based on adult studies, and association doesn't prove causation. So it's an early form of study in which a randomized controlled child would need to be -- to further assess the strength of that association.

REPRESENTATIVE SACCONE: So some preliminary studies have been done, and that's the risk associated with that?

DR. MOSS: Correct. Those are the risks that have been raised about medical marijuana.

REPRESENTATIVE SACCONE: Thank you very much.

DR. MOSS: You're welcome. I didn't mention the diversion, which the previous speaker did. I will say for adolescents, diversion is a risk because in states where they have legalized medical marijuana, there have been studies of adolescents in outpatient substance abuse programs; and in anonymous surveys, they've recorded about 74 percent of those adolescents have used someone else's approved or prescribed marijuana. And that is similar to the rates of the diversion of opiates, even HD medicines.

I don't think it has been documented. But if you talk to teenagers, they divert even acne medicines. So they get it to find or sell it, sometimes to trade it. So, again, the diversion is an issue that I forgot to mention.

REPRESENTATIVE BAKER: Representative Saccone, are you complete?

REPRESENTATIVE SACCONE: Yes. Thank you.

REPRESENTATIVE BAKER: Thank you, sir. Representative Krieger.

REPRESENTATIVE KRIEGER: Thank you, Mr. Chairman. Thank you, Doctor. I'm interested in the distinction you're drawing between cannabinoids and medical marijuana. Let me just ask it this way: The typical person comes into my office is often a person that says I have a child that has a seizure disorder and this will help.

Is there anything that medical marijuana will produce a positive effect that the cannabinoids will not? Maybe that's another way of asking. What is the distinctions there, and how are they used differently?

DR. MOSS: Right. As I understand it, the THC component of the plant has been formulated in a synthetic product that has been studied and has been proven to be safe and effective and, therefore, approved by the FDA. That's THC.

The cannabidiol, CBD, which is the extract of oil from the plant, I don't believe that has been formed into a synthetic product yet; but it's being studied, and like the study in Philadelphia, is looking at -- it's a plant-based extract.

So it's not a -- there's no synthetic form of that chemical compound of the plant, to my knowledge. So they are studying the plant-based form of it, so not a cannabinoid, which is synthetic, but a plant-based form of

the oil for seizers, which is different from THC, which has not been used for seizers. Did I clarify that? It is a little bit confusing.

REPRESENTATIVE KRIEGER: I wish I understood what you said.

DR. MOSS: I can try one more time.

REPRESENTATIVE KRIEGER: Maybe I could just be more straightforward. If cannabinoids are available for this parent that has this child with a seizer disorder, is there any reason we should legalize marijuana for that particular use?

DR. MOSS: The cannabinoids are the pharmaceutical form of THC, which is not recommended for seizers. It's the oil of the plant that is not in synthetic form for the seizure. So if you use, let's say, Marinol, which is a synthetic FDA-approved form, that doesn't have the right chemical compound of what we think works for seizures.

So I don't think somebody would prescribe an FDA-approved synthetic THC form for a seizure disorder. So there is no FDA-approved drug that is based on a plant compound that is for seizure disorders yet.

REPRESENTATIVE KRIEGER: So as of right now, there wouldn't be some efficacy in extending this to medical marijuana for that particular use?

DR. MOSS: Oh.

REPRESENTATIVE KRIEGER: Or is there research being done to meet that as a synthetic?

DR. MOSS: Yes. Well, there's research being done to see if medical marijuana in the form for seizures is effective, yes.

REPRESENTATIVE KRIEGER: Thank you, Mr. Chairman.

REPRESENTATIVE BAKER: Chairman Marsico.

REPRESENTATIVE MARSICO: Thank you, Doctor, for being here. Going back to those studies that you mentioned in Pediatric at Philadelphia Children's, do you know when they started it and how long it will take for those?

DR. MOSS: You know, I just talked to the researcher in preparation for this, but I didn't ask that question. I don't know the answer. I would have to get it to you and send it to you. Would that be okay?

REPRESENTATIVE MARSICO: That would be great.

REPRESENTATIVE BAKER: Thank you. Representative DeLissio.

REPRESENTATIVE DeLISSIO: Thank you. Doctor, I beg your pardon. It's my understanding that even in pharmaceutical studies -- we talk about research and checking things out. It's my understanding even in

pharmaceutical studies that they focus on adults. They don't focus on older, older adults that are in long-term care, and they don't focus on pediatrics. So do we have any confidence that as they explore this, they're going to focus on either of those groups that they benefit?

And I think that's one of the challenges that medical providers have now, is that we really don't know, for even existing approved FDA drugs, what these impacts are, because they're not the age cohorts that are tested historically and traditionally.

DR. MOSS: Yes. That is an excellent point, and you're right, we cannot possibly test every drug for every situation. So lots of medicines that we use are off label from the standpoint of if I'm treating a one-year-old and studies have been done for one-and-a-half-year-olds and up, I mean, that's sort of off label. So you have to make a medical decision if that's -- if you have enough information and there's enough risk/benefit ratio that you feel comfortable prescribing that.

So in the case of medical marijuana, I think the issue has come up because it is a CNS or a brain-related effect and that the pediatric brain is like in evolution, and I think that's what makes it sort of this focus on kids as opposed to another drug that might have

more like liver effects; and that's not so different from kids to adults. So I think that has been the issue raised, but that's one of my questions as well.

REPRESENTATIVE DeLISSIO: Thank you.

REPRESENTATIVE BAKER: Thank you. Representative Cox.

REPRESENTATIVE COX: Thank you for your testimony. As I've been reading and listening to these hearings over the last few weeks, I've been in Philadelphia, Harrisburg, and now here, we've heard from different backgrounds, I think you're one of the only individuals from the medical perspective testifying today. I wanted to ask you this question for that reason.

Patients are using this. I received a call from someone yesterday on my way to Pittsburgh. Patients are using this. Every doctor I say that to does what you just did, nods saying, "Yes, we know".

Doctors have an increasing concern that their patients are already using it, and doctors that I've spoken to have had an increasing request that we do something with this, even outside the boundaries of the FDA in regards to packaging or other limitations, labeling THC levels, something so that we at least have some guidance, because right now, they're getting marijuana

from wherever; and the make-up, the chemical make-up, the THC levels vary.

An individual that I talked to yesterday said, "I got a product first. They worked phenomenally. That particular supplier disappeared, maybe arrested, who knows." They had to find another source.

That source did not supply the same type of product, could not find a way to make the new product work; kind of gave up on it, and they had a product that was working to reduce -- which is a mother with a child with seizures -- reduce seizures from, like, 700 a day down to less than 100 on a consistent basis for a three-month period.

Again, antidotal, no real studies in that sense. But all the other Members of the legislature are hearing a lot of real-life stories. So my question is this: If we found a way to allow cannabis to be grown in Pennsylvania, produced in Pennsylvania, regulated, tested for THC levels and other things like that, limited the packaging as you and other testifiers have requested, not allowed it to be packaged like other types of foods and, you know, kind of the attractive nuisance kind of idea that, hey, this is something that kids would look at and say, this looks like a candy bar, it looks like something tasty, if we take all those steps as a legislative body

and we provide you, as physicians, with the ability to know what it is you're giving individuals, do you think -- as a body of physicians, do you think that would be something that would be beneficial regardless of the FDA's stance or movement or not movement on this issue?

DR. MOSS: Right. I think that's a really good question. I think that all of those measures would reduce the potential of risk. And then we are sort of left with the unknown of, you know, what happens after five years of use, let's say.

The one thing about pediatrics patients, which, again, I'm sort of in a difficult position, because I also -- like you hear about patients, and I hear about patients; but I need to respond to patient needs and give them the very best treatment possible and don't want to withhold treatment, of course, if it could be beneficial.

So I think we're just in an area of unknown, that what if we used this treatment for a period of time and it showed some short-term benefit but long-term had some deleterious consequences.

So, I mean, again, to the degree that we can provide evidence-based care, I think it's important. There are obviously lots of situations where there's compassionate use of medications before the evidence can be revealed in extreme situations, and I think that's

something we also need to carefully consider, because that might be an important option in the interval while we're waiting for more specific outcomes.

I don't have a great answer. I think that's the challenge right here in this particular issue.

REPRESENTATIVE COX: The question I always ask about --

REPRESENTATIVE BAKER: Mr. Cox, we're going to try to limit one question per member. We are way behind already.

REPRESENTATIVE COX: Mr. Chairman, I understand. This is --

REPRESENTATIVE BAKER: Very quickly, one more question.

REPRESENTATIVE COX: Because of the limitation of -- I can't say one singular question. But because of her particular background, I wanted to ask these questions.

REPRESENTATIVE BAKER: We are trying to get other doctors to testify if we can make that work, though. Go ahead.

REPRESENTATIVE COX: So I guess what I keep hearing from patients is, you know, we're not talking about people who have a condition that they believe will actually go away. We're talking about people with Crohn's

Disease, we're talking about people with Parkinson's, Alzheimer's. There's all kinds of conditions that there are suggested. Nonofficial studies have shown there could be some potential here.

So many of these are life-threatening or life-altering. So what it's doing is not necessarily curing, but creating a better quality of life.

And every single patient I talk to, whether it's for severe pain because of shrapnel lodged next to their spine or whatever, every single patient I talked to said, "Listen, why can't I as a patient with my doctor say, I don't care what the consequences are ten years down the line, I probably am not going to live that long with this condition"? Or like, "My child is having 700 seizures a day. What is the long-term effect of that versus reducing that number significantly down to less than 100 or even 50, or 30," I think was the number that she actually used?

So that's my question. You know, I understand the long-term drawbacks are unknown; but there's a list a mile long of FDA-approved pharmaceutical products that lawyers around the country have a field day going after saying, "By the way, if you ever took this during the 1970s, contact us, and we'll get you a lot of money, because the FDA never should have approved it," et cetera.

So the FDA is not the magic wand of approval as lawsuits around the country will show. Why should we not move forward even without the long-term studies being done?

DR. MOSS: Right. And I'll just say three things. First, for the adult conditions that you described, the synthetic pharmaceutical forms of the medicine have been shown to be effective for many of them, not all of them. So that is one. They're already on medicines.

And then in terms of the seizure disorder question in young children and why can't we do something for individual patients, I think what the challenge is for the legislators is to balance out what is best for individuals and what is best for the population. So to grapple with those risk/benefit ratios as a legislative body, I think, is your challenge.

REPRESENTATIVE COX: Thank you. Thank you, Mr. Chairman.

REPRESENTATIVE BAKER: Thank you. Thank you very much, Doctor, for your time and physician statement and all the documentation you provided to the Committee. We really appreciate it.

We do have, I understand it's working, with us, it is Karmen Hanson, Program Manager, National Conference

of State Legislatures. Ms. Hanson, welcome. You may proceed when you're ready.

MS. HANSON: Thank you, Representative Baker, Representative Fabrizio, Representative Marsico, Representative Petrarca, for the invitation and opportunity to present to the Health and Judiciary Committees today.

I am Karmen Hanson from the National Conference of State Legislatures coming to you live from Denver. I have worked on health policy for over 14 years and on medical marijuana on Canada's policy for the last seven or eight.

Today I will provide a brief overview of the existing state medical marijuana/cannabis low THC policies and programs as well as include some information on the current legislative landscape. I will also be using the terms "marijuana" and "cannabis" interchangeably today.

I have also done my best to remove any intentional or unintentional puns from my presentation. Also, some people may find the topic of marijuana and cannabis quite amusing, I can guarantee you that this issue is taken very seriously by NCSL policy makers and yourselves and others across the county.

I also would like to thank everyone for their help in allowing me to present via Skype today, including

Judy Smith and John Dilly.

While the discussion of using marijuana for medical use may seem like an old idea, state legislation governing it is relatively recent. California was the first to allow for medical marijuana by a voter-approved proposition in 1996.

Since then, 22 states, D.C. and Guam have followed, most of which since 2000, making for a total of 25 programs. 13 programs were voted in by voter ballet initiative measures, and 12 were approved by legislative bodies.

I would like to note that not all of those approved programs have been implemented, and it can take anywhere from 6 to 18 months to get a new program up and running depending on the processes involved with each state. And this is on Slide 2. I provided a link to the NCSL Medical Marijuana Web page here for your reference, as well as in a printed handout. And most of the information covered in this presentation comes from that page and related sources.

The other notes that I provided are articles from the NCSL State Legislature's magazine. Here is another printed copy of that, which chronicles the efforts in Colorado and Washington with their adult use medical marijuana programs. However, many of the issues covered

in those articles overlap with the medicinal programs as well.

As Slide 3 shows, as you may expect, no two medical programs are alike; but some similarities do exist. Most programs include provisions for the following issues: The patient registries, growers, for caregiver registries, dispensaries. They require specific conditions to be had before you can get a referral for medical cannabis, and they recognize patients from other states.

Grower and caregivers, there are 17 states that allow through the registry for them. And possession limits very widely, too. Anywhere from 1 ounce to 8 ounces of products or 3 to 12 mature plants or seedlings.

These categories also vary. For example, some states don't limit the number of licensed dispensaries with a hard number, and some restrict to a total number. Say, in Connecticut's example, there are six in the entire state of Connecticut. And then in Minnesota, their program, once it's up and running, will have four originally approved dispensaries.

Also, when it comes to growers and dispensaries, local zoning and licensing procedures may control if they may legally operate. For example, here in

Colorado, many cities and counties do not allow for the commercial growers and dispensaries within their jurisdictions. However, the Illinois medical law does not allow for localities to over-restrict dispensaries so they may not operate.

Licensing and registration processes also vary widely. All but one state has a list of qualifying conditions allowing for the medical use of cannabis products.

Some states are silent or haven't decided yet on some of these issues, particularly the one recognizing patients from other states. And it's not always included in the initial language in the programs.

As I mentioned, it takes some time to establish rules and regulations after these measures are passed, which in the case in Connecticut and Massachusetts from 2012 and Illinois and New Hampshire in 2013, some items were established in the legislature ballet measure; while in other states, those details are left to a governing board, a task force, or rule-making committee or authority.

Product testing provisions are often one of the secondary considerations and not included in initial legislation. I also want to point out that the state's health department who generally houses the medical

marijuana programs. However, a few of the programs are run by Attorney Generals and Offices of Consumer Protection, Public Safety or Justice.

Slide 4 shows one of the latest issues with medical marijuana is the new type of low-THC limited or research programs that have come about in 2014 and 2015.

11 states passed these bills in 2014, and they vary widely. Three more states passed legislation in 2015 so far this year. Idaho's was just vetoed by the governor a few weeks ago.

For information on those ballet initiatives, they can be found on the Marijuana Policy Web page. And also my good friend, Sue Rusche, who is in the audience and will be testifying later, she's with National Families In Action; and she may also speak to the most recent Georgia law since she was highly involved in that process and is quite knowledgeable of it.

Slide 5 shows the low THC cannabis programs, and they are all very new. They've all been, like I said, approved in the last two years by states with no other medical marijuana program.

Since they are so new, no one has had an existing program to model. Like I said, other marijuana -- other types of medical marijuana programs vary, and so do these.

The definitions of low THC vary by state. That can be anywhere from .3 percent THC and less than 5 to 15 percent CBD or cannabinoidals by weight.

The conditions are rather narrow. Some require a failure of traditional treatments before gaining access to cannabinoidal products, and the identified source of the product also very widely.

The most common source would be in medical schools that are able to obtain research products and clinical trials for the FDA drug approval process, such as the case in Georgia with the pharmaceutical cannabis products.

Most medical schools would be able to grow their own or to get it through the Federal Cannabis grow at the University of Mississippi, although, this has proven quite difficult unless you are an already-established clinical trial or research project because of the numerous federal agency approvals required.

A few of the laws do not clearly define where the product would come from nor where another person would obtain the products, which means that the person wanting to use the cannabinoid product could be put at risk by breaking federal or other state laws if they transport the product from another state or through the mail.

None of the CBD-only programs are operating as

of this month, and details on who are to implement them aren't always clear. As is the case with other marijuana programs, a few of these laws allow for a working group or a task force to finalize those details about how they will actually work, and the agencies named in the legislation need to develop more rules before they may go forward.

On to Slide 6. Like anything else, the medical use of marijuana has its advocates and critics. Shortly after California legalized medical use of marijuana back in 1996, the Institute of Medicine came out with its own opinion. It found that marijuana helped some patients with pain relief and any side effect was generally short-lived and well-tolerated.

In late 2012, the Treatment Research Institute released its own opinion based on its addiction-related research, and they do not advise using marijuana for medical use.

In recent years, other disease-specific and patient advocacy groups have varied in their support for medical marijuana for the treatment of pain, nausea, and other issues.

Some groups that may not currently support its use but would reconsider with additional FDA and scientific research and standards to support it include the American Society of Addiction Medicine, American

Cancer Society, American Glaucoma Foundation, National Multiple Sclerosis Society, and the American Medical Foundation. And some of these organizations do not agree with full legalization, which is a whole other issue in regards to these medical-only programs.

Federally, marijuana remains a Schedule I product, seen as having no acceptable medical use, which the previous speaker covered. However, in 2009, the Obama administration stated that they would not actively prosecute those adhering to their state laws for medical distribution in states with medical marijuana statutes.

More recently, in late August of 2013, the U.S. Department of Justice announced an update to their marijuana enforcement policy. The statement reads that when marijuana remains illegal federally, the U.S. DOJ expects states like Colorado and Washington to create strong state-based enforcement efforts and they will defer the right to challenge their legalization laws at this time. The Department also reserves the right to challenge the states at any time they feel it's necessary.

Again, this was specific to the adult-use laws and Colorado and Washington, but it is similar to the position taken for medical states as well.

Again, some of the organizations have lists of groups with similar positions either for or against the

use, like Project SAM, and that link is included at the bottom of the slide.

On Slide 7, in 2012, two states legalized small amounts of marijuana for adult use often called "recreational use." I tend to refer to it as "adult use" or "retail sales."

Colorado's Amendment 64 and Washington's Initiative 502 both passed by popular vote. Colorado's governor appointed a 24-member task force to come up with the rules and regulations of the law. It includes four legislators, members of the Public Health Department, Department of Revenue, and the governors chief legal counsel, among others. They announced their comprehensive recommendations in March 2013, and sales started January 1 of 2014.

Washington uses the State Liquor Control Board to implement their law. Their retail sales started just last summer.

Again, those two magazine articles I included as handouts are called "Legally Green" and "The Green and Winding Road," which details the processes of establishing the rules and implementation status in Colorado and Washington.

More recently, Alaska, Oregon, and the District of Columbia passed voter initiatives to allow for legal

use, adult use of cannabis products. D.C's effort is different in that it only allows for the growing and possession and does not otherwise regulate sales of cannabis.

Alaska and Oregon are not yet operational with their programs. Oregon is supposed to start sales on July 1, and Alaska's law allows for individuals to grow and possess limited amounts of cannabis as of February 24 of this year, and the state will begin regulating and licensing the cannabis-based businesses starting in 2016 by the Alcohol Beverage Control Board or a new identity -- a new entity if the legislature chooses to create one for this process.

As Slide 8 shows, as of early April, there were marijuana bills pending in many states to allow for either medical use or adult-regulated use or both.

I'd like to point out that the North Carolina bill listed here would put a constitutional amendment legalizing medical use on the ballet for voters to decide.

Some states have proposals to amend current programs and laws, and those are not included in my list. There's also significant legislation in this session regarding marijuana generally, not related to medical use.

And my colleagues in our criminal justice program here at NCSL follow those issues very closely, and they may be contacted with any questions regarding criminal possession, more the legal side of marijuana use.

As Slide 9 shows, you can imagine, I get asked a lot of very interesting questions from legislators and legislative staff about marijuana policies and the process of purchasing marijuana legally for medical or adult use.

Some of the most questions I get include, "How much diversion is there out there out of the established medical programs?" And, unfortunately, this number is very hard to calculate. There is little pre and post information available.

One early Colorado study showed that 70 percent of kids report to have gotten their product from a medically-qualified person or source. That statistic may have changed with the adult-use retail sales now happening here in Colorado, but research is underway on this and other social implications.

Colorado is also reviewing the medical program caregiver, grower limits, and it may limit the number of plants grown on behalf of patients. I know for sure there are new municipal ordinances here in the Denver area regarding how many plants may be grown by a caregiver for

their patients.

The idea is that limiting some of the less-tracked cannabis growing, the things that aren't being tracked, seed to sale in the retail market, won't be hitting that unregulated market.

The next question I get a lot is, "What are those medical organizations that approve or disapprove of marijuana for medical use?" Again, I mentioned some in my testimony, and then there are some links to some other advocacy organizations that keep track of their own list of who supports it and who does not support it.

And it is really hard to find a comprehensive list other than the ones I mentioned. But many have concern about the lack -- as the previous speaker mentioned, the rigorous scientific study, which, again, seems to be increasing now in the United States.

And, again, Sue Rusche is well-versed in this particular area, and she may be able to answer additional questions, and she may also have additional resources in her testimony.

The other question I get is, "Who is going to be the next state?" Everyone wants to know who is going to be the next state that passes medical or adult-use program.

Well, these bills vary widely, and NCSL does

not prognosticate in any sort of way on what might happen or may not happen on any particular piece of legislation, because you just never know.

There are way too many ifs and circumstances in any particular state that make that an impossible job. And if I had a crystal ball that I could do that, I probably would have my own 900 number and not be a policy geek.

The states will be making constant changes to their programs once they come up with implementation. So it's a constant process of improving and enacting different changes to have the programs run as intended by the process.

So Slide 10, that kind of concludes what I have for you today. If you have any additional questions, I am glad to hear those now, or you may contact me and my colleagues with our follow-up information on the slide.

And I would also like to put in a plug for any of the legislators or staff folks about our legislative summit in August. We will be in Seattle, and we will have what we are calling a DHI session on marijuana policy that will carry the latest information on Colorado and Washington and federalism issues, including drug driving laws and enforcement issues. So, Mr. Chair, thank you for your time today.

REPRESENTATIVE BAKER: Thank you very much, Ms. Hanson. That extensive research is well-done. We appreciate that, that background information.

Just to clarify, in addition to the American Academy of Neurology, American Academy of Pediatrics that oppose the legalizing medical marijuana outside the FDA process, it appears, based on the documents that I have, that the other groups that feel the same way are the American Society of Addiction Medicine, American Cancer Society, Glaucoma Foundation, Multiple Sclerosis Society, American Medical Association, and the Pennsylvania Medical Association also has property, white paper, in opposition to legalization outside the research and development through the FDA process. Is that correct?

MS. HANSON: To the best of my knowledge, yes.

REPRESENTATIVE BAKER: Thank you very much. Any other questions, Members? We do have -- believe it or not, we have Dr. Shackelford waiting on Skype for us. Representative DeLissio.

REPRESENTATIVE DeLISSIO: Hi, Karmen. Just a real quick question. When did the FDA put this on Schedule I? Do you know when that occurred?

MS. HANSON: I believe it was in the early 1970s. The exact -- it was at least 40 years ago. I do know that much.

UNIDENTIFIED SPEAKER: That's a lie.

MS. HANSON: I can look that up for you.

REPRESENTATIVE BAKER: Thank you.

MS. HANSON: But, I'm sorry, I couldn't hear the representative's name.

REPRESENTATIVE BAKER: Pamela DeLissio, Philadelphia.

MS. HANSON: Great. Thank you.

REPRESENTATIVE BAKER: Thank you. Any other questions?

(No response.)

REPRESENTATIVE BAKER: Seeing none, thank you very, very much, Ms. Hanson. We appreciate your testimony.

MS. HANSON: Thank you.

REPRESENTATIVE BAKER: We will go to Dr. Alan Shackelford, who I believe is waiting. Hi, Dr. Shackelford. Please stand-by. We still do not have sound. We're going to try to call you and then have you on speaker. Doctor? Oh, we just lost video. Dr. Shackelford, you may proceed, sir.

DR. SHACKELFORD: Thank you. It's a pleasure to speak with you. Do you have video now?

REPRESENTATIVE BAKER: Yes. Thank you very much.

DR. SHACKELFORD: Excellent. Audio is okay?

REPRESENTATIVE BAKER: You may proceed, sir.

UNIDENTIFIED SPEAKER: You can proceed Doctor. You can go ahead and testify.

DR. SHACKELFORD: Very well. Are you ready for my comments?

UNIDENTIFIED SPEAKER: Yes, sir. Go ahead.

DR. SHACKELFORD: Very good. It's a pleasure and privilege to speak with you. I am sorry I am not able to join you in person, and I apologize for the technical difficulties of earlier today.

I have provided you with some written comments that will give you a bit more information on the things that I will be saying to you. I would like to address the patient concerns that I think that you may have been somewhat overshadowed in some of the remarks by more technical concerns about public policy matters.

I am the director of the University of Heidelberg School of Medicine and did postgraduate training at HMS Hospitals, the Harvard Medical School, where I did an internal medicine residency, a clinical fellowship in nutrition support.

I was a research fellow in nutrition and a research fellowship in behavioral medicine. I was practicing occupational medicine in Colorado in 2009 when

the Obama administration's more liberal policies on cannabis use for medical purposes became more widely known.

And my patients began to request that I approve cannabis use for them, particularly patients with severe pain that wasn't well-controlled by the pain medicines that I was prescribing.

I was reluctant to do so because I knew very little, if anything, about the scientific basis for using cannabis. So I delved into the medical research quite deeply and discovered that the use of cannabis as a medical treatment is nothing new.

Cannabis was first used medically, according to the written record, 5,000 years ago, probably much earlier in China. And it has been used in India where it was found by William Brooke O'Shaughnessy, a British physician, who joined the British East India Company, who was very impressed with its medical benefits, and published a paper in the late 1830's regarding its medical uses in India.

Its use then became very widespread throughout the western world. And in the United States, cannabis extracts were prescribed extensively.

A medical textbook from 1924, some used cyclopedia medical (inaudible) textbook listed out

57 different medical conditions for which cannabis was prescribed and was effective after standing in 1937, which was opposed by the American Medical Association. Its use fell off, and it was rediscovered, I think, by patients and physicians in the 1960's.

I found in researching cannabis, because of the medicine, that there is an extensive scientific basis for it. There were 20,000 to 30,000 studies published from basic science to clinical research, and it has been shown to be effective and safe; and I have seen hundreds of patients here in Colorado, some of whom you may be familiar with.

Charlotte Figi, who was featured in a CNN documentary in August of 2013, is my patient. Charlotte has Dravet Syndrome and had 300 grand mal seizures a week when I first saw her.

We used the cannabis to treat those seizures cautiously, admittedly, and in small dosing with close monitoring has made it possible for Charlotte to lead a, more or less, normal existence going from 300 grand mal seizures a week to one every other month.

I have seen a girl from Pennsylvania in my office here who has exactly the same diagnosis, Dravet Syndrome, and who was using a similar preparation with THC with tremendous benefit here in Colorado, but, of course,

cannot use it in Pennsylvania, and upon her return, began to have the serious seizures that we were able to control quite well here in Colorado.

I am not speaking on behalf of any organization or group, but rather on behalf of patients whose voices may have been somewhat overshadowed in much of the discussion about this, and she is one of them.

Our oldest patient is 91. He's a World War II veteran who was able to stop using narcotic pain medicines and when I last saw him several months ago, stood up to his full 6 foot, 4 inch height, and solemnly shook my hand and thanked me for giving him his life back.

It was an amazing moment, and he was able to decrease his narcotic pain medicine use from six to eight Percocet a day down to one every other day. He is very functional, and it does not run the risks that are inherent to the use of restriction pain medicines such as narcotics, which according to the CEC, numbers tilt 20-odd thousand people in 2009, and along with prescription drug interactions, just nearly 40,000 in the United States in that same year.

More people die from prescription drug overdoses and drug interactions than traffic accidents in the U.S., and that trend is holding in Pennsylvania as you will see from the written documentation that I provided to

you.

The most recent CNN documentary called "Weed 3" also features a patient of mine, again, a man with early stage Alzheimer's disease. He is doing extraordinary well using cannabis versus prescription medication.

Although he does not have normal neurological functioning, he is much more functional than he was using the prescription medicines that are commonly prescribed for Alzheimer's. His wife is adamant in her support of his cannabis use versus the prescription medicine.

The United States Government, the Department of Health and Human Services, from the patents actually, based on research done in the National Institute of Health for the use of cannabis, a compound cannabinoid cannabis, to prevent or possibly slow the progression of Alzheimer's and other forms of dementia, which is quite remarkable. And the patent number is 6630507.

Yet, the CA, the DEA, and the National Institute on Drug Abuse maintain that cannabis has no medical benefit. I believe that the abundant medical research literature has extensive experience with cannabis as a medical treatment, a safe medical treatment; and its historic basis for use is not only in the United States but worldwide. The contention is that it has no medical benefit.

Unfortunately, we do not have sufficient research, to my satisfaction, anyway, as a physician who practices evidence-based medicine; and I think we need to go forward with medical research and good research.

The State of Colorado has recently founded 72 that will be investigating the medical use of cannabis. Unfortunately, most of those studies for which we have devoted $9 million cannot be randomized with legally-controlled plants.

Those types of studies must be approved by the National Institute on Drug Abuse, the FDA, the DEA, and the (inaudible). It's extraordinarily difficult to get such studies approved. And in my frustration, I have gone to Israel where I am initiating a series (inaudible) clinical trials on the medical uses, cannabis, which I think will go a great distance in allaying the fears that people have and, of course, establishing appropriate dosing and delivery methods for cannabis.

I know that there were law enforcement concerns we have faced here in Colorado and I think did a pretty good job of establishing a well-regulated system of oversight by the state.

I served and continue to serve on the Department of Revenue of Medical Marijuana. I'm actually now a marijuana enforcement physician advisory worker, and

I also serve on the Colorado Department of Public Health and Marijuana Scientific Advisory Council, all the things where physicians are tasked with enforcing the laws that we have passed, and the system is working actually quite well.

I think that any final analysis physicians need to have a variety of different treatment options at their disposal. We have to weigh the risks versus the benefits of potential treatments.

And in my experience, cannabis has proven to be not only highly effective, in many instances where prescription drugs are not effective, such as in intractable seizures, severe pain, severe nausea, it is not only something which should accrue to the benefits of patients in Colorado and in 22 other states; but in my opinion, it should be available to us and to our patients throughout the country. And Pennsylvania should be one of those states where this option will be available to physicians and to their patients.

Thank you very much. I'm happy to answer any questions.

REPRESENTATIVE BAKER: Thank you very much, Doctor. I appreciate your time and your patience with the Skyping, with the technology problems that we've had. We have Sarah, who would like to ask you a question, Doctor.

MS. SPEED: Sorry about that. Thank you so much for your testimony today. I follow a lot of nutritional research, and there is an annual update that comes out every year. And it seems like every annual update of the research on nutrition, there is some new synthetic vitamin or synthetic substance that is causing new problems, so whether it was synthetic Vitamin K or synthetic Vitamin C. Have you noted anything, are there any studies that you are aware about the efficacy of the synthetic cannabinoids versus the direct plant extracts?

DR. SHACKELFORD: (Inaudible). On clinical efficacy, those compounds we're seeing increasingly frequently in retail outlets that are called these (inaudible) are research compounds. These were compounds that were created in the laboratory for laboratory study that should not be used clinically.

I don't think there is any advantage in using any synthetic cannabinoid over a naturally-occurring cannabinoid. We have very little clinical experience with those synthetic compounds, and I strongly urge law enforcement and, of course, regulatory agencies to ban them and prevent their distribution. They have no place in clinical medicine, in my opinion.

MS. SPEED: The benefit that we've heard about, the use of the synthetics versus the natural plant,

is the ability to streamline, to know exactly how much THC is in there.

Are you comfortable with your dispensaries and your regulatory process that what you think is best for the patient is going to be accessible in the long term?

DR. SHACKELFORD: I am not happy with the current dosing paradox. I think that it's difficult for me to suggest to a patient that he or she should take two puffs and call me in the morning. That's less medical than I'm comfortable with.

I'm also not comfortable with suggesting that a patient should get a 100-milligram brownie and cut it into 16 pieces and take a 16th at a time.

On the other hand, some of the approaches do work. They're effective, and they do not carry any significant risk of any serious side effect that could be life-threatening.

For example, the side effects of the cannabis overdose are unpleasant and to be avoided but are not life-threatening, and they dissipate pretty quickly.

I think that we need to be doing a great deal more research to establish persistence and reproduce dosing forms so that patients and physicians can, with confidence, either recommend or use products that are cannabis-based.

Even in its very primitive form, currently, the ingestible forms and even the inhaled forms, which I don't think are as effective as ingested, are safe; and the majority of its uses are very effective. So I am confident that the current dispenser model works very, very well.

I would like to amend my comment and just answer the first question by saying that the prescription medications that are synthetic THC, which have been studied extensively and are approved by the FDA, are exceptions, of course. I was referring more to the things like "spice" and those sorts of synthetic cannabinoids.

REPRESENTATIVE LAWRENCE: Thank you, Mr. Chairman. Dr. Shackelford, can you hear me?

DR. SHACKELFORD: Yes, quite well. Thank you.

REPRESENTATIVE LAWRENCE: I appreciate your patience.

REPRESENTATIVE BAKER: For the audience's sake, this is Representative Lawrence. I know the doctor can't hear me.

REPRESENTATIVE LAWRENCE: Thank you, Mr. Chairman. I appreciate your indulgence. Dr. Shackelford, I particularly appreciate your indulgence with this kind of group we have set up here, but it seems to have worked; and so I appreciate that, and I appreciate

your insightful testimony.

My questions come kind of piggy-backed off of Sarah's questions, which were just -- what she just asked. We had three hearings across the Commonwealth on this issue, and we consistently heard questions from both the supporters and the detractors of, you know, the consistency of dosing, the consistency of the product.

So my question to you is, how do you deal with those issues? Also, do you recommend smoked marijuana? Do you recommend ingesting it, the oils? How do you deal with the -- what format do you recommend to your patients? Do you recommend all of them or just some of them, and how do you deal with the inconsistent dosage issues that have been brought before this Committee?

DR. SHACKELFORD: Thank you for that question. I've looked to some of the regulations that have -- part have been put in place, and it will be put in place in other states to see what is, indeed, possible to the regulatory fashion mandate much more reproducible dosing.

I think that New York and Connecticut have done a good job on that, both states. Mainly that products offer to patients should be consistent, should have a demonstrated and proven cannabinoid content, particularly THC, which is the psychoactive compound in the (inaudible)

very narrow ranges for deviation from those procedures of dosing requirements, and that works very, very well.

The (inaudible) is absolutely capable of producing pharmaceutical-grade consistent quantity cannabis-based products. Currently, in Colorado and many other states, that is not a requirement.

The regulatory side here in Colorado on recreational marijuana, very specific parameters have been established that have not yet been sent to the medical side.

I think it's possible to, by rule or by legislative initiative, establish those sorts of parameters that will be required of producers in Pennsylvania.

With regard to my own recommendations, currently, I don't recommend that people smoke marijuana. There are a number of reasons for that. Safety isn't necessarily one of them. The research that has been done on smoking marijuana, and there has been no significant long-lasting pulmonary damage due to smoking marijuana.

Nonetheless, I think that smoking is not an appropriate medical use for anything. I think vaporizers are a good alternative to that. They're certainly not consistent in the delivery of known quantities of cannabinoids. And also the effect is not as long-lasting

as one might wish.

For example, in treating a seizure disorder, a more consistent level of cannabinoids, particularly CBD, we need that official, and that's not achievable with inhaled delivery systems.

So my recommendations to my patients are to begin with a low-dose ingested form. I, of course, prefer something that has been clinically tested for (inaudible) available that have been developed based on clinical study.

Nonetheless, that is a safe and typically very effective way to initiate treatment sometimes, and it might be necessarily particularly for someone undergoing chemotherapy with acute nausea; but I'm quite comfortable with ingested cannabis with known quantity products. I hope that answers that question.

REPRESENTATIVE LAWRENCE: It does, and I appreciate that insight. If I may, Mr. Chairman, if I can ask an additional question?

REPRESENTATIVE BAKER: Sure.

REPRESENTATIVE LAWRENCE: This Committee has heard extensive testimony on this issue, I think it's fair to say from all sides. One of the things that has been brought to the Committee's attention more than once is the, in fact, testimony earlier today, laboratories

contracted by the State of Colorado, examining 600 strands of marijuana cultivated by dozens of growers, and then going through the various substances that were found in the products being sold; mold, fungus, heavy metals, pesticides, a variety of contaminants.

I'm also on the Agriculture Committee. We had a tour yesterday of an animal feed plant here in Pennsylvania, and the federal regulations require that animal feed -- this is animal food we're talking about now -- require three times a day testing for various substances for the animal feed that's being produced.

So my question is, how do you -- do you recommend certain suppliers to your patients to avoid this issue, or do you feel this is an issue that requires additional attention? I mean, this seems to be in Colorado where you are. So how do you deal with that side of the equation?

DR. SHACKELFORD: That's a very important concern. We establish rules based on the legislation passed in 2010 and 2011 that in the medical marijuana (inaudible) Department of Revenue which oversees the medical cannabis in the cities in Colorado.

I turned to the Department of Agricultures in a number of different states and, of course, the Federal Department of Agriculture to try and find out what, if

anything, else they might have on the use of fertilizers and herbicides and pesticides and so on. No one could speak to me in my capacity of working for the Department of Revenue -- with the Department in an official capacity for the State of Colorado. So no one knows anything or knew anything at the time.

I turned then to the federal rules governing use of compound pesticides, herbicides, and so on. That was the only inhalable or smokeable product that had any hangover side effect to that culture.

And eventually, I simply copied and pasted the federal regulations governing those compounds and use of those compounds in tobacco over to the medical marijuana side. And that actually worked out pretty well.

The problem, I think, is that people that I don't have (inaudible) the direct knowledge from cultivators, but people have ways of evading some of those things.

I think that can be addressed very effectively in the rule medicating process by (inaudible) very specifically certain compounds. Certain chemicals are acceptable under certain conditions and to be used under those conditions. The inspectors and the regulators need to enforce those rules.

It's a common conundrum for me as a physician

to know of (inaudible) best practices are technical and in compliance with the laws as far as I know.

And to be unable under federal rules to recommend that a patient go to those facilities (inaudible) Ninth Circuit Court of Appeals in 2002 which establishes physicians' right under the First Amendment to (inaudible) any particular course of action (inaudible) from directing a patient to a specific source of medical -- I'm prohibited from making specific recommendations to a patient (inaudible).

The people in my office, my office manager, for whom I handed out (inaudible), she is not speaking for me (inaudible) that she is. (Inaudible) by legislation or based on legislation that we covered a number (inaudible) for physicians (inaudible).

REPRESENTATIVE LAWRENCE: Dr. Shackelford, I appreciate your testimony and appreciate you bearing with us. Thank you, Mr. Chairman. I appreciate your indulgence.

DR. SHACKELFORD: It's a pleasure. Thank you.

REPRESENTATIVE BAKER: Representative Miller.

REPRESENTATIVE MILLER: Thank you, Mr. Chairman. Thank you, Mr. Chairman. I want to thank all the Chairmen involved for bringing this matter to the Pittsburgh area.

I would like to thank the staff for the good efforts and for the technical work to get everything going. I would also like to thank the stenographer, as I've watched her facial expressions as she's trying to keep up with all her blurred words. I appreciate her effort, too.

I guess what I wanted to ask you, Doctor, is just going back to the basics for me, I admit that I was not at a hearing out east. I'm an attorney here in Pennsylvania. The State sets the rules for my license. The State sets the rules for my ethic obligations. The State sets the rules for the codes that I work under, like every attorney here.

We've heard today, there seems to be some debate about a couple aspects, one being FDA approval, which clearly there seems to be almost two dozen states that have not waited for the FDA to provide the relief to their citizens.

We've also heard of a variety of medical organizations. I believe the Chairman had listed many who had expressed reservations, at least some form or another.

But, obviously, I would imagine that whether it's members of those organizations directly or sister organizations in those states that allow it, dozens,

hundreds, thousands across the country are being prescribed medical marijuana by doctors who are likely members of some version of those organizations, much like we have our organizations here in the legal profession.

So I guess my -- where I kind of get caught up on it is that I believe that if a doctor believes that anything would be of beneficial use to their patient -- and what I mean is, I can't believe doctors are prescribing things that they feel would be of no value. That doesn't make sense.

So if doctors are prescribing or thinks are of value of their patients in 23 and 24 states, including D.C. -- and here, let's assume that some doctors would prescribe it and maybe some doctors would not.

It's a similar thing to me where you have one doctor that recommends one procedure and another doctor who goes in for a second opinion and recommends a different path and then in coordination with the patient, you know, the patient reaches a decision that's in their best interest listening to the advice that's given.

My point being is I get caught up on with this saying I want to give doctors as much -- as many tools in their toolbox to help relieve pain, suffering in the State, acknowledging that there's a percentage of doctors who, perhaps, don't always do things right, acknowledging

that there are a percentage of lawyers who come up on ethical charges.

My point being is we acknowledge that there's some percentage of every profession that's going to cause some degree of difficulty, whether it's intentional or not.

But going back to the point of saying shouldn't we give doctors this tool in their toolbox and allow them to decide if it's recommended, if it should be prescribed or not, why am I wrong with starting or ending my decision process on that factor alone?

DR. SHACKELFORD: Well, you've raised a number of important issues. First, I think it's important to note marijuana cannot be prescribed in the United States. Physicians prescribe FDA-approved medications on a prescription pad or calling in a prescription to a pharmacy.

Cannabis is recommended as a treatment option by physicians to patients. I think that doctors should have an opportunity to recommend it to patients that prove to be beneficial and should begin to recommend it with some confidence in the -- both the scientific basis for the recommendation and in the efficacy and where facilities are studying dosing. I think those are absolutely achievable.

It's been during the course -- (inaudible) most of my colleagues, and we don't know a whole lot about it. We don't know exactly what will work, what conditions. (Inaudible) seminars or continuing education programs, and some are available that are quite good, others that were not quite so much.

That practice is, as you correctly said, an art based on science. Medicine is a practice of bringing together for the benefit of the specific patient all of the physician's experience and all of the medical literature and objective data that can aid and assist a physician in making a recommendation or decision for that person.

(Inaudible) provide literature. (Inaudible.) I think that if (inaudible) in the final analysis, the physician has to know whether to support a medical cannabis bill (inaudible) in the best interest of the people of the state.

Physicians that practice medicine, they should practice (inaudible) pledge to serve, and I hope there's certain medications I can prescribe (inaudible) because I don't like what they do. Certain medications (inaudible,) and others I'm happy to prescribe cannabis, and it isn't all that different.

If I think it's the most appropriate treatment

for someone, I recommend it. If I think something is better, I will recommend that. Sometimes it's simple therapy or surgical intervention. That's the practice.

We, physicians, will make the decisions to do what is best for the patient, hopefully together with that patient. But as you said, we need to have these tools at our disposal as well.

So I think it comes down to what is best for the patients, and I think that the experience of the ten-year-old girl from Pennsylvania whom I saw in my office and saw a remarkable change in the number of seizures and (inaudible) to me, that exceeds her and her doctors in Pennsylvania.

It's absurd that her and her family should move to Colorado simply so this child can be treated. (Inaudible.) It's all about patient and patient care and suffering.

REPRESENTATIVE MILLER: Thank you, Doc.

REPRESENTATIVE BAKER: Thank you very much, Doctor, for your testimony. And I agree, we definitely need more research and development. And you were at a disadvantage earlier when Representative Miller mentioned a lot of medical organizations.

You probably were not privy to those that we had recited, and I'm going to do that real quickly. The

American Medical Association, Pennsylvania Medical Society, National Multiple Sclerosis Society, The American Society of Addiction Medicines, American Cancer Society, American Glaucoma Foundation, the American Academy of Pediatrics, The American Academy of Neurology.

And, unfortunately, we were not able to connect with Dr. Amy Brooks-Kayal, President of the American Epilepsy Society, who is the chief for treating -- chief neurologist treating the largest amount of children with epileptic seizures at the Children's Hospital in Colorado.

They all have opined that they oppose legalizing medical marijuana outside the construct of the FDA. And, in fact, the American Epilepsy Society letter that was proffered to us, she -- I'm quoting her, "Not a single pediatric neurologist in Colorado recommends the use of artisanal cannabis preparations."

You seem to have a different opinion contrary to all of your colleagues and all of those medical associations, but we appreciate your perspective, sir.

DR. SHACKELFORD: May I comment on that?

REPRESENTATIVE BAKER: Yes, sir.

DR. SHACKELFORD: I have had a number of pediatric epilepsy patients referred to me specifically by (inaudible). No one at Children's Hospital has

recommended cannabis for a patient because the Institution of Diplomacy (inaudible) permitted that. It's does not necessarily mean that they are close to (inaudible) under proper conditions and appropriate monitoring.

The specific physicians by many of those organizations actually have the idea that we need more research on this, that this is not something that was (inaudible) yesterday or (inaudible) condition.

As I mentioned, there's a very long history (inaudible) compounds (inaudible) medicines (inaudible) hundreds -- for 100 years. I think that in some instances, cannabis is absolutely the most appropriate treatment, is absolutely (inaudible) to deny a potentially lifesaving treatment to a patient to whom is a likelihood if some treatment can be (inaudible) when I refer (inaudible) specifically is children with seizure disorders. That exists as well. Prescription medicine as the other option for her (inaudible) and my acceptance with her. She probably got arrested for (inaudible) sufficient evidence of the safety we have in mind (inaudible) research (inaudible) which state (inaudible) by a spokesman from National Institute of Drug (inaudible) New York Times in January.

It does not fund research on cannabis. (Inaudible.) I understand that. Their job is to discuss

it, research (inaudible) which are certainly less problematic than the use pharmaceuticals. They cause thousands of deaths every year (inaudible), but (inaudible) controls the source (inaudible) on campus in the United States, and it has proved very, very few over the last 10 or 20 years. So --

REPRESENTATIVE BAKER: Doctor, let me just be fair to the good Dr. Kayal, because she had -- before commenting on that, she had prefaced it by saying that the families and children coming to Colorado where you practice are receiving unregulated highly-variable artisanal preparations of cannabis oil prescribed, in most cases, by physicians with no training in pediatrics, neurology, or epilepsy.

As a result, the epilepsy specialists in Colorado have been at the bedside of children having severe dystonic reactions and other movement disorders, developmental regression, intractable vomiting, and worsening seizures that could be so severe, they put the child in a coma to get the seizures to stop. And because these products are unregulated, it is impossible to know that these dangerous adverse reactions are due to CBD or because of contaminants found in the artisanal preparations.

So I just wanted to clarify that. It was a

very extensive letter and opinion that she had written as President of the American Epilepsy Society, and I'll just give you a chance to quickly close. I know we're running out of time here.

DR. SHACKELFORD: I'm grateful for that clarification. Thank you. There are problems, unquestionably, which is why I do not simply say, go get some pot and try it.

I am extraordinarily compulsive in that instance on (inaudible) in the case of a child, really, pretty much anyone, with the patient's primary care physician or primary care neurologist in the case of a patient with epilepsy.

I also am very cautious about the sources of the extracts that any of the patients use. I wish that were the case for every practitioner, and I am sorry to say that is not the case.

I think that we need to be cautious. I agree, but I think it's possible to implement rules and practices that can make such occurrences much less likely. And I think (inaudible) find it hard to believe good physicians will be able to do so from the outset rather than retrospectively (inaudible).

Nonetheless, I feel (inaudible) responsible and effective way. I, of course, do what I can in my capacity

as a practitioner, also as a member of the Scientific Advisory Counsel, to see that those kind of (inaudible). Thank you, Chairman, for that qualification, and thank you for giving me the opportunity to speak with you.

REPRESENTATIVE BAKER: We appreciate your time, sir. Thank you very much.

DR. SHACKELFORD: Thank you.

REPRESENTATIVE BAKER: Is Sue here in the room? Rusche? Is Sue Rusche in the room? She was going to testify, and then we were going to take a quick break for lunch. But is she still holding?

UNIDENTIFIED SPEAKER: I can go look for her.

MS. KROSSE: Is she here?

UNIDENTIFIED SPEAKER: I'm not positive, but I'll go look for her.

REPRESENTATIVE BAKER: If she's out there, yeah. I appreciate that. Thank you.

Thank you for your patience and forbearance. I think we're all set and ready if you would like to proceed. Go right ahead, Sue.

MS. RUSCHE: Thank you very much. I'm so sorry not to be there with you today. I have a knee injury that prevented me from getting on the airplane at the very last minute. So I presume that you have slides, that you're looking at slides that I've sent up. Is that right?

REPRESENTATIVE BAKER: That's correct.

MS. RUSCHE: Okay. Great. So I'm going to try to answer two questions today. The first one is, is marijuana medicine? And the second question is, how did we get here? So I want you to look at the slides, and tell me, you decide, if you think marijuana is medicine.

Slide 1 is going to show you here are the smokeable marijuana medicines that are for sale in states that have dispensaries. And I'm not sure that I have ever heard of a medicine called "Super Diesel," or "Purple Haze" or "Afghani Kush" or "Blue Dream."

Notice at the top of each little dish, the amount of THC in that particular strain is advertised. So these are medicines that you can smoke in any number of ways.

The next slide shows you more smokeables, and these are from California, presumably, a medical marijuana state. These are called "California Premiums" with "Girl Scout Cookies," "Sour Diesel," "OG Kush," et cetera. And these are half-gram marijuana joints.

The next slide shows you the edibles. That is marijuana-infused foods, and you can see each one of the pictures on this slide has been infused with marijuana and is contributing to many overdoses, especially on the part of children who can't tell the difference between a gummy

bear and a marijuana-infused gummy bear or a soft drink made by Dixie Elixirs that is infused with marijuana, et cetera.

And that brings me to a point. Representative Miller had asked earlier about overdosing and what that looks like. The Colorado Health Report was issued by the State, by the Department of Health in February of this year; and we published something called the Marijuana Report E-Newsletter, it goes out weekly.

We featured that health report. And with a subscription base at that time of 3,000 people, we've had 25,000 people click through to that report. I will happily send you that report, and it will answer some of the questions that Representative Miller had. I'm having a funny echo, but I hope you aren't.

The quest with medical marijuana has been to elevate the amount of THC and reduce the amount of CBD because, frankly, medical marijuana patients want to get high, and that's what sells.

So the next slide shows you "dabs" or "earwax" or "shatter." These are all different names for the same entity, which is THC that has been leached out of the marijuana plant so that you have levels of 75 to 100 percent THC. And all of these pictures are different versions of the dabs.

What you do is put a dab, thus the name, on a heated piece of metal and then inhale the vapors to get really, really high; and people are overdosing on this particular form of medical marijuana.

People at home try to leach out their own -- THC from their own marijuana using butane hash oil, which is another name for this product, DHO. That's what has contributed to explosions in the home. People's apartments are blowing up, their homes are blowing up, their cars are blowing up from their efforts to try to do this using a highly flammable solvent.

The next slide shows you dispensaries where patients buy their medical marijuana. The picture up in the upper right-hand corner is a dispensary in California, and you see that they are advertising the doctor is in, all you do is take your $40, go in, get a quick cursory exam by the doctor, and then go around the corner and buy your medical pot.

State's have legalized medical marijuana to treat more than 50 different diseases. So I think we need to look at what the science says. And the science tells us first that not one single medical marijuana maker in any medical marijuana state has submitted his medicine to FDA for approval as safe or effective. Not one has been tested in animals for safety, nor tested in humans for

efficacy.

Most states, including Colorado as we just heard, do not require testing for contaminants or potency; and random tests by scientists are finding all of those contaminants that we heard about earlier.

But there are real marijuana medicines, and that's the next slide. The pediatrician whose name, I'm sorry, I didn't catch, referred to Marinol and Cesamet. These are two synthetic versions of THC that were approved by the FDA in the 1980s to treat chemotherapy-related nausea and AIDS wasting.

But more interesting and to the point that you're discussing and grappling with here is there are two more medicines that are almost approved by the FDA. They are in FDA-based clinical trials in this country. One is called Sativex. That is THC and cannabinoidal that have been extracted from marijuana, here is the key word, "purified," and then developed into a masquerade to treat the symptoms of multiple sclerosis. That drug is in FDA clinical trials in this country for advanced cancer pain.

And more to the point again with your struggle is Epidiolex, which is purified cannabinoidal extracted from the marijuana plant, purified; and it is 98 percent CBD with only trace amounts of THC.

It comes in an oil. It's made into an oil to

treat rare forms of epilepsy, and it's given FDA clinical trials, and I suspect that the trial -- our pediatrician mentioned at one of the Pennsylvania hospitals, Children's Hospital, is testing Epidiolex because there are a number of clinical trials around the country testing this drug.

Even more important is the pediatrician mentioned that there are compassionate-use programs where families with children who are so sick with epilepsy can obtain this drug from FDA and from its maker, or they can do something else through an expanded access program which allows every pediatric neurologist who is treating these children to obtain Epidiolex while it's being tested for up to 25 of his or her sickest patients.

In Georgia, what we did last year, our governor set up a statewide Epidiolex -- I'm sorry, a statewide expanded access program through our university system, which enables all of the doctors in Georgia who are treating epilepsy to obtain this drug for 25 of their sickest patients. And that's pretty much going to -- we are not there yet, but that's pretty much going to cover all the kids who have such a need.

So to summarize whether marijuana is a medicine, I want you to look at the next slide, which is contrasting the difference between FDA-approved medicines and legalized medical marijuana medicines.

I want to make this point before I go through this slide. When a state legislature legalizes marijuana for medicine, the legislature removes the obligation -- well, not the obligation -- removes the responsibility from the medical marijuana producers to go through FDA trials, to do the research, to test their products in animals and then in humans to make sure that there are no unwanted side effects. So I think that's a caution you need to take into account as you deliberate on this issue.

So let's look at FDA-approved medicines versus legalized marijuana medicines. FDA-approved medicines can guarantee that they're pure, not so with legalized medicines. They can guarantee that they're safe because they have shown through research to get there that they are safe as compared to no safety legalized medicines.

The FDA-approved medicines can show that they're effective because they have tested first in animals, then in small groups of humans, then in larger groups of humans, that the drug actually does what its makers say it does. And that is achieved through randomized controlled trials compared to nonlegalized medicines, legalized medical marijuana.

There's a recall system in place so that once the drug is approved and reaches a larger market, if side

effects begin showing up that are detrimental, the FDA can recall that medicine and take it off the market.

Doctors can prescribe FDA medicines. Doctors can only recommend or certify that a patient has a disease. A state has decided medical marijuana should treat.

Pharmacies can sell FDA medicines. Only dispensaries can sell legalized marijuana medicines. Pharmacists can dispense the medicines if they're FDA-approved. Bartenders, the medical version of bartenders, dispense medical marijuana that has been legalized; and they have no medical training.

At the bottom of your stack of slides are two charts that I would like you to pull out now. And what they show is first past month marijuana use among 12 to 17-year-old children in the United States from the year 2013. The most recent year of this survey has produced results.

The red bars on this first chart show -- those are medical marijuana states. The blue bars are not medical marijuana states. They have not legalized marijuana for medicine. And you can see that almost all of the medical marijuana states have much higher rates of use by their kids than nonmedical marijuana states.

The second chart is past smoke medical

marijuana use among ages 18 and 25. So these are entry-level workforce and our college students and others. And, again, the red bars are used in medical marijuana states by this age group versus use by this age group in nonmedical marijuana states, something to take very seriously and think very much about.

Now, if you go back to your slide packet, No. 2, how did we get here? Legalization forces have put together a game plan over the last many years to chip away at the drug laws.

They started with marijuana, and they plan to move on to other drugs; and I will tell you more about that at the end of the session. So what does that game plan look like? It looks like, first, let's decriminalize the drug. Lets reduce criminal penalties from -- or simple possession from a misdemeanor to a civil offense with a monetary fine.

That doesn't go far enough in our view. We do not think people should be put in jail for simple possession of marijuana. However, we think there should be provisions for assessing people for addiction, providing treatment to them if they are addicted, providing drug education if they're not, and providing social services to steer low-level street dealers, who are mostly kids, to more productive pursuits.

Second, after decrim, the next step is to go to states that have ballet initiatives and legalize the drug for medical use. What this does is legalize production, processing, and sales; and it encourages and allows a commercial marijuana industry to develop.

The third step is in states without ballet initiatives to legalize the medical use of marijuana of just one component of marijuana for just one disease and then come back the next year and ask legislators to expand the number of illnesses and to legalize production processing and sales coming back to that commercial marijuana industry.

The next to last step is to legalize the industrial version of the drug. I'll explain more about that when we get to that part. And finally to use ballet initiatives to fully legalize the drug.

So let's look at how that has played out. By 1979, 11 states have decriminalized marijuana without any provision of treatment or social services for people who need it.

The trust state code did not do that until 2002, 20 years later, if my math is right. And why is that? Well, marijuana use among adolescents, 12 to 17-year-olds and young adults, 18 to 25-year-olds peaked in 1979 at the highest levels in the history of this

country and the history of the world before or since.

REPRESENTATIVE BAKER: I apologize, Sue. Can you hear me all right?

MS. RUSCHE: Yes, I can.

REPRESENTATIVE BAKER: Okay. Sue, would you be so kind, because we're pressed for time and behind a little bit, if you could somewhat summarize or finish with the most salient parts of your presentation? I apologize, but the Members -- we have a very tight schedule, and we're a little behind. So thank you.

MS. RUSCHE: I'm aware of that. I'll do my best.

REPRESENTATIVE BAKER: Thank you.

MS. RUSCHE: So 11 states decriminalized up to 1979, and then that was stopped by an apparent movement that our organization helped lead and which resulted in a reduction of marijuana use by adolescents and young adults by two thirds between 1979 and 1992.

At the time, in 1979, NORML was leading that push. And the founder of the NORML said, "We are trying to get marijuana reclassified medically. If we do that for chemotherapy patients, we'll be using this issue as a red herring to give marijuana a good name. That's our way of getting to them, meaning the parent movement, just like the antiparaphernalia laws are their way to getting to

us."

So a few states legalized marijuana for medical use in the '80's, but the legislative councils wrote those bills to comply with federal law. None of those laws legalized the cultivation, processing, or sales of marijuana.

In the early 1990s, George Soros, a man who has done much good and a man, in my view, who has done much harm, told legalization organizations he would fund them if they stopped talking about legalization and focused instead on medical marijuana, quote, unquote, and other softer targets.

He was joined by Peter Louis, the founder of the Progressive Insurance Company, and John Sperling, the head of the Apollo Group in giving millions, literally millions, of dollars to key legalization organizations, who include, on the next slide, the Drug Policy Alliance, the richest of the groups, NORML, the oldest of the groups, and the Marijuana Policy Project, the most aggressive of the groups.

So since 1996, California voters, as you've heard, were the first state, the first voters to legalize medical marijuana through a ballet initiative.

The conditions for which patients buy medical marijuana are in the next slide, and this particular slide

is from Colorado where the makers of the cannabinoidal and the physicians who -- like our previous speaker, who are recommending it for epilepsy kids.

Notice that only two percent of the medical marijuana card holders in Colorado are saying that they need medical marijuana for seizures. By far, the vast majority, 93 percent in Colorado, are saying they need it for pain. And these numbers don't add up to 100 percent because some people say they need it for more than one reason.

In just one year, 2014, 12 states legalized CBD to treat epileptic seizures and other illnesses. It's important to understand that the products that are on the market coming out of Colorado contain 20 percent CBD at best. And though the labels don't display it, they also contain 5 percent THC; and that is not good for the brains of very young children and babies.

22 states have legalized industrial hemp most in the last two years. So congress defined industrial hemp legally as that no plant contains no more than 0.3 percent THC. That's industrial hemp for industrial use only.

Any marijuana plant containing more than .3 percent THC is marijuana. But because they are the same plant, law enforcement cannot tell the difference without

testing each plant in the field before eradicating illegal marijuana plants in those states that still regard it as such.

Legalized medical CBD manufacturers have now rebranded their products from special strands of marijuana to therapeutic hemp in the belief that they can ship hemp products to all 50 states.

The next slide shows you John Stanley, the head of the Stanley Brothers Social Enterprises, the group that makes Charlotte's Web out in Colorado, talking in Canada about the marijuana strain they produce that creates Charlotte's Web.

But now they've rebranded it to hemp extract, as you can see in that slide, in the belief that they can actually sell 5 percent THC containing Charlotte's Web because they're calling it "hemp" to all 50 states -- to people in all 50 states.

In 2012, Colorado and Washington State became the first to legalize recreational marijuana in the world. Alaska, Oregon, and the District of Columbia joined them in 2014, again, all through ballet initiatives.

So the entrepreneurs and investors are building a big marijuana industry that rivals big tobacco, denying marijuana harms, and targeting adolescents as their

customers.

The next slide shows you the first 4-20, April 20 day, the holiday to smoke pot in public in Colorado just after marijuana had been legalized for recreational use. By the way, Colorado's law says no smoking in public. And that fuzzy stuff you see in the back is not haze or fog.

Finally, the head of the Drug Policy Alliance and its founder, Ethan Nadelmann, has done a TED Talk just a few months ago. And in that TED Talk, he says, "Legally regulating and taxing most of the drugs that are now criminalized, marijuana, cocaine, heroin, and methamphetamine, would radically reduce crime, violence, corruption, and black markets." And that is exactly the way the legalization groups are trying to go.

So if you open this door to medical marijuana, you can anticipate that there will be additional requests from other sick patients with different illnesses for more dispensaries, et cetera, et cetera, as they move you or are trying to move you to full legalization.

The impact of legalization on Colorado, I'm going to skip that, but I am going to take you to the slide that shows a chart at the end of that section. It's called U.S. versus Colorado past month marijuana use 2013. Can you find that slide?

REPRESENTATIVE BAKER: Yes, but we're really running out of time, Sue.

MS. RUSCHE: I'm almost done.

REPRESENTATIVE BAKER: We're going to lose the room here is the problem. We have another quick meeting. And go right ahead. Please finish.

MS. RUSCHE: All right. Thank you. This shows you the contrast between the national levels of marijuana use among various age groups and the levels of marijuana use in Colorado.

The first set of bars are ages 12 and older, so everybody but kids, little kids. The light orange bar is the national average. The dark orange bar is the Colorado average. The second group of bars are adolescents, the third, ages 8 to 25, and the fourth, ages 26 and up.

How can you all help children who have epilepsy right now in a way that will protect them from exploitation? First, I'm just going to go over the differences between legalized CBD, such as products shown here, that had 20 percent CBD at best and 5 percent THC but are not advertised with 5 percent THC, and pharmaceutical CBD in the next slide, which is purified, it is safe, it has been tested in animals for 5 years. It's in Phase 3 FDA clinical trials. It's available to kids who can't qualify for clinical trials through

FDA-expanded programs, extended access programs; and it's 98 percent CBD.

It's likely to be approved by the FDA at the end of 2016. And at that time, doctors in all 50 states will be able to prescribe it in all states. Pharmacies will be able to sell it, and pharmacists will be able to dispense it.

My advice to you -- and I understand how much pressure you're under to try to sort though a very complicated process. But before you act, I would advise you to purchase several samples of CBD oil, which you can do on the Internet, have them tested in Pennsylvania in an FDA-certified lab. Test it for contaminants, for levels of THC, levels of CBD, and levels of any other cannabinoids. Because the best way to protect Pennsylvania children is to verify what you are being told by legalization advocates and desperate parents, understandably so. This will help you decide how to help these children. Thank you very much for allowing me to testify.

REPRESENTATIVE BAKER: Thank you very, very much, Sue. I would like to give you some good news. Last week, I got a call from the governor's office, and I spoke with the Secretary of Health and the Physician General; and they are willing to try to fund a $2 million project

for the Epidiolex.

MS. RUSCHE: Fantastic.

REPRESENTATIVE BAKER: So I think we -- I think someone is listening to you, and hopefully that drug is going to get approved by the FDA. I agree we need a lot more research, but it needs to be FDA-approved. Thank you very, very much for your testimony, Sue.

MS. RUSCHE: You're welcome. Thank you.

REPRESENTATIVE BAKER: God Bless. We're going to take a break now before we loose our little break room, and we'll be back at one o'clock. Thank you very much.

(Lunch recess taken.)

REPRESENTATIVE BAKER: One o'clock having arrived, the Judiciary Committee of the House of Representatives will come to order. The informational public hearing on marijuana will now resume, and we have with us Andy Williams, the singer, Greater Denver Area, President and CEO, Medicine Man & Medicine Man Technologies, and Mr. Gary Greenwood, executive VP of Business Development & Government Affairs for BioTrackTHC. Welcome. You may proceed.

MR. WILLIAMS: Thank you very much. And thank you very much, Chairmans Marsico and Baker for the opportunity, and Committee Members for this opportunity to speak in front of you today.

As the CEO of Medicine Man and Medicine Man Technologies in Colorado, I own a licensed medical marijuana center and cultivation center, and as of 2014, a retail marijuana center in Colorado.

Medicine Man Technologies is a consulting business that I help people around the country do what we do in Colorado in their state. My background is an industrial engineer, and I'm also a project management professional, and a veteran of the U.S. Army.

I was invited to share my perspective with you with a focus on three areas, prevention of diversion, medical cannabis testing, and the future of marijuana as a medicine. And I hope you will find my testimony of use as you consider this important issue.

First is preventing diversion. Before exploring the measures states have taken to prevent diversion from medical marijuana establishments, it's worthwhile to briefly examine the context.

Despite decades of law enforcement's best efforts to stop marijuana use, almost half of Americans have tried it. Marijuana is widely available, particularly to those we are most interested in keeping it away from, youth.

Year after year, since long before the first state medical marijuana law was enacted, monitoring the

future surveys have shown that more than 80 percent of high school seniors report marijuana as fairly easy or very easy to obtain.

Meanwhile, in states where medical marijuana is prohibited, many older patients who can find relief from cannabis cannot access it. Others buy it on streets where their own safety and safety of the product is far from certain.

Carefully crafted medical marijuana laws allow patients to obtain a consistent lab-tested product in a secure setting. Several studies have shown that allowing patients safe and legal access to medical marijuana has not resulted in increases in adolescents' use of marijuana in those states.

While opponents of medical marijuana, and stated just a little while ago here, note that those states tend to have higher teen marijuana use rates than those that do not allow it, the baseline was higher.

Marijuana use was already higher in those states before the laws were enacted. As Dr. Seth Hammerman noted, a California Pediatrician, upon comparing teenagers before and after marijuana-use rates in medical marijuana states, the data are very reassuring that in almost all cases, medical marijuana legalized for adults does not lead to an increase in recreational use of

marijuana by adolescents.

In Colorado where Medicine Man operates, the most in-depth survey on teenagers, marijuana-use rates, the CEC's Youth Risk Behavior Surveillance System indicates marijuana use decreased slightly after medical marijuana dispensaries were explicitly allowed and regulated in 2010.

Turning to the question of what measures the states are taking to prevent diversion of medical marijuana, each state with a state license regulated medical marijuana dispensary system has crafted regulations, including security and recordkeeping rules. And medical marijuana businesses are subject to inspections.

Entities that violate the rules, particularly in case of serious violation, may face suspension or revocation of license. In addition, individual patients who divert marijuana face both criminal penalties and the revocations of medical marijuana cards.

Medical marijuana states with relatively small patient populations such as Rhode Island and Vermont tend to have less of those regulations. For example, these two states do not require sophisticated seed-to-sale tracking systems. Nonetheless, there are no known cases of diversion from the dispensaries in either state.

States with higher patient populations tend to have more stringent regulations. And in those cases, it's easier for medical cannabis businesses to absorb the cost of regulating without charging prohibitive expensive prices.

Colorado is one such state, and we have more than 100 pages of state regulations in the city requirements. They include inventory tracking, video surveillance, badges, and background checks for employees.

In Colorado, it's regulated very much like the gaming industry where background checks have to be done before you work there. Detailed requirements for security systems and locks, waste disposal, and any of our waste has to be unrecognizable and unusable so that people don't get marijuana from waste marijuana from your dumpsters, which waste marijuana is really stems and dry leaves that can't be used to be smoked. So it's very unusable.

We undergo lots of inspections. I get visitors from the fire department, from the Marijuana Enforcement Division, Department of Health, Department of Agriculture, and most recently OSHA in my facility on a regular basis.

Packaging, all cannabis products have to be sold in either a child-proof container or opaque resealable package. Transportation rules, recordkeeping,

audits, we undergo audits all the time by the NAD looking at records making sure that we're doing what we're required to do in order to prevent this diversion activity and other activities that the state wants to prevent.

In addition, individual licensees often go above and beyond legal requirements. For example, Medicine Man employees trained security guards in addition to the video surveillance at the facility.

As Colorado and other recent medical marijuana states have shown, numerous procedures can be put in place to ensure close supervision of medical cannabis providers.

There were a few bumps in the road in Colorado when we initially transitioned from an unregulated gray market to a medical marijuana program in 2009 to a fully regulated one in 2010.

The state is continuing to update and revise its procedures and regulations to best serve patients in the public at large. And speaking from the heart, the Marijuana Enforcement Division is doing a fantastic job. Numerous states are learning from the lessons of Colorado.

Testing, now, this is certainly a very important issue. And although modern medical marijuana laws have been on the books since 1996, they've only

matured enough to include state license and regulated medical cannabis businesses in recent years.

This is partly because of the hostile federal climate in which providers operated, which made regulation and transparency difficult. Now that both the President and congress support policies of nonintervention in medical marijuana states, regulatory standards are rapidly evolving to better serve patients in the public. This has included mandatory third-party testing, independent -- well, mandatory third-party independent laboratory testing of cannabis.

When patients buy marijuana on the street, they have no idea what harmful or even illegal pesticides it may contain or whether the toxic levels of molds or bacteria may be present.

Street marijuana may even be laced with hard drugs. In contrast, in the newest and most advanced medical marijuana states, patients who buy cannabis products from licensed providers know their medicine is safe and tested.

And I did hear some talk earlier about people saying that wasn't the case, but that's not true. In Colorado, we do test our marijuana. The rules are evolving right now. Some of the issues in pesticides are tough to deal with because there has been no testing at

universities and other places that say, okay, you know, what is an allowable residual of a specific pesticide. And pesticide companies, of course, haven't tested for that.

So it's difficult to do, and Denver right now has some pretty draconian rules out there for what we can use. So probably the most clean crop in the United States is, I think, 96 percent of all crops in the United States are grown with pesticide. Marijuana in Denver, anyway, isn't. It's a difficult thing to do, and it would be nice to be able to use some of them. I think over time, these rules will straighten out. You know, it is far safer than buying it on the street illegally.

Medicine Man does send samples of all the cannabis we cultivate to CannLabs for testing. CannLabs is a licensed tester in Colorado. We do not yet have infused products licensed. But all the products we do purchase from third parties are tested and labeled.

It should be noted that testing is expensive, and as the case with any other regulation, can drive up the ultimate price to patients. It is advisable to consult with experts and cannabis testing and to consider whether some requirements are best dealt with by regulating what pesticides or soil conditions cultivators may use rather than requiring batch testing for

everything.

For some tests, such as for prohibited pesticides or heavy metals, it may be more advisable to require only rare, random tests or tests where there's suspected violation.

Determining what pesticides will be allowed for medical marijuana cultivation is also a fairly new issue in the marijuana regulatory field; but standards are rapidly growing, and Washington and Colorado and Maine all have standards for what regulated growers may use to control pests that can be used as an example.

Developing knowledge of the medical benefits of marijuana -- and as a side note, I am starting a company in Colorado right now. I'm working with a pharmacist who has 26 labs around the country that just got a lifetime achievement award and scientists from the University of Colorado, University of Massachusetts, and other experts around the country that are very well-known, in establishing a lab where we will be working with the compounding and formulation of marijuana for consistent, reliable, repeatable marijuana medicines, and many different dosages and delivery methods.

And I'm just one company doing this right now. I don't think I'm the only one that has had this idea to put a group of scientists and experts together to do this

sort of thing. So as these laws allow, companies like the one I'm forming will be developing medicines that are FDA-grade. I can't go to the FDA right now because marijuana is a Schedule 1 narcotic. It will be able to meet those same standards, because the people I have working with me do that on a daily basis in all their other jobs.

So, anyway, that aside, although marijuana has recorded medical history that dates back more than 5,000 years, we're only just beginning to scratch the surface of understanding the therapeutic methods of cannabis.

47 percent of Americans now live in states that allow medical cannabis; yet, the federal government created an extremely difficult approval process for researching the whole plant marijuana's medical benefits. I do stress "whole plant."

In addition, it is provided minimal funding for such research, and it has failed to make available a wide variety of strains in marijuana. Consequently, research is far more limited than it should be for treatment options that has been used for millennia.

Nevertheless, dozens of clinical studies have established cannabis as a medical value, and their knowledge of its therapeutic value has begun to grow at a fairly rapid pace.

Since 1999, researchers with the Center For Medical Cannabis Research, which was funded by $8.7 million from the State of California, has completed 12 clinical trials on smoke to vaporize marijuana's medical efficacy and safety.

CMCR's clinical research showed that marijuana is safe and effective at relieving acute pain, muscular spasticity associated with multiple sclerosis and multiple types of neuropathic pain, which is notoriously unresponsive to traditional medications.

All four of the neuropathic pain studies demonstrated significant decrease in pain after cannabis administration. As Dr. Igor Grant, a neuropsychiatrist who served as director for the Center for Medical Cannabis Research, explained, every one of the studies showed a benefit.

A study published in clinical pharmacy and therapeutics found that medical marijuana may allow for opioid treatment at lower doses with fewer side effects because it augments the pain relief from prescription painkillers.

This is particularly noteworthy because around 16,000 Americans die each year from overdosing on prescription opiate painkiller. In Colorado, that number has decreased 25 percent since the introduction of medical

and now retail marijuana.

Just a point: When people talk about overdosing with marijuana, there has been no cases of anybody dying from overdosing on marijuana, except maybe the guy that had a 4,000-pound bale that dropped on him. Opiates, they do die. They don't wake up the next day saying, wow, I learned my lesson, I'm not going to do that again.

Other studies have shown cannabis increased adherence to both antiretroviral therapies for HIV and to interferon, Lipovarin, sorry about the pronunciation, treatment for the Hepatitis C virus.

There has also been research indicating marijuana has nerve protective benefits, including for ALS. That may help with the symptoms of ALS, including pain, spasticity, drooling, and wasting.

We are just beginning to learn about cannabinoids' potential in cancer treatment. One of the data noted, regarding effectiveness, cannabinoids exert a notable anti-tumor activity.

Regarding toxicity, cannabinoids not only show the good safety profile but also have palliative effects in patients with cancer, indicating that clinical trials with cannabinoids in cancer therapy are feasible.

Dating back to the 1970s and 1980s before

obtaining federal approval for researching the benefits of whole-plant marijuana became so difficult, several studies found that marijuana effectivity alleviated nausea, appetite loss caused by chemotherapy.

And a clinical trial sponsored by New York State found 56 patients who had no improvement with standard antiemetic agents were treated, and 78 percent demonstrated a positive response to marijuana. Inhalation marijuana is an effective therapy for the treatment of nausea and vomiting due to cancer therapy.

Since 1990, receiving federal approvals necessary for medical cannabis research in the U.S. and then obtaining cannabis, itself, has often taken years when it has been forthcoming at all.

However, other countries have rethought their approaches to medical cannabis and are also beginning to conduct more research. In Canada, whole-plant medical cannabis has been legal since 2001. Researchers found that marijuana was superior to placebo at alleviating pain and that it helped patients with anxiety and sleep.

This spring, the Canada Consortium For the Investigation of Cannabinoids plans to launch a longitudinal study of patients who use medical cannabis for chronic conditions.

Data is also accumulating in Israel where

medical cannabis is used for a variety of patients, including those with pain, basal cell carcinoma, psoriasis, Parkinson's, PTSD, epilepsy, and sleeping disorders.

One study conducted in Israel found that smoked cannabis resulted in complete remission of Crohn's disease in 5 of the 11 patients compared to none who were given a placebo. 5 more saw 50-percent reduction. So 10 of the 11 had benefits.

Unlike other treatment options, there are no significant side effects. Israeli researchers have also seen indications that marijuana can reduce incidents of diabetes, reduce seizures, and limit the permanent damage on heart attacks.

In the coming years, our knowledge of cannabis medical benefits will surely continue to expand. In addition to the federally-approved and international clinical trials, observational studies of patients enrolled in state medical marijuana programs have begun, including patients with intractable epilepsy.

Although it can be tempting for some policy makers to suggest merely isolating individual cannabinoids and putting them in pills rather than allowing the whole plant in a variety of modes of administration, research indicates that marijuana's different compounds act

synergistically, creating what is known as an entourage effect.

THC, which can be extremely beneficial for pain and nausea, can be too intoxicating on its own. That is one reason many patients dislike the prescription of the drug Marinol, which is 100-percent synthetic THC.

Other cannabinoids moderate the high and have their own medical value. We know very little about, terpenes, which are the fundamentals that gave marijuana the smell; but they, too, are likely an important part of the entourage that gives the patient the relief they find.

As our knowledge in marijuana's medical benefits is maturing, so are the options of administration. In the 1930s, pharmacists legally sold cannabis. A few decades ago, medical cannabis was commonly administered by marijuana cigarette or by brownies.

At today's dispensaries, patients have a wide variety of options available. Edibles allow patients longer lasting relief than does smoking and vaporizing, while inhalation allows for immediate relief and precise titration dosage.

Some patients find topical salves relieve rheumatism pains or even burn wounds. Minors with

intractable seizures commonly use oils. Some patients are administering cannabis raw in smoothies or in salads. Other options include suppositories, tonics, and, once again, tinctures.

While there are limits to our knowledge of marijuana's therapeutic value, it is becoming increasingly untenable to maintain a patient should be denied safe legal access to medical cannabis.

Every day, some Pennsylvania patient who does not respond to any other drug from the seizures, pain, nausea, whatever, is breaking the law by turning to marijuana. Others are suffering without relief.

In my work at Medicine Man, I met hundreds of grateful patients and their loved ones who have been able to return to a normal or almost normal life with the help from medical cannabis. And I hope you'll give Pennsylvania patients the same legal option.

I think I'll stop there. There's more testimony that I submitted in written form. There are maybe two stories I would like to tell that goes against something that -- I think, anyway, if I understood you right, Chair Baker.

I had a woman come to me one day. I talk to the people that come to my stores a lot. And she grabbed me by the arm very forcefully, and I thought she was

angry. I didn't know why. And she said, "I need to talk to you." I said, "Why?" And she started breaking down in tears then.

She said, "I want to thank you." I said, "For what?" She said, "I have a five-year-old niece who without the benefit of the marijuana that I buy here would be in an induced coma because her seizures are so bad and the treatment noneffective that when we gave her this, she could actually function as a little girl, maybe not a normal little girl, but she can function. She's not in an induced coma." So the opposite of what you said earlier, if I heard you right.

REPRESENTATIVE BAKER: I'm not sure what you're referring to. I was quoting 12 different medical associations and their concerns, particularly the American Epilepsy Society out of Colorado.

MR. WILLIAMS: Yeah. I know you were quoting a lot of doctors and scientific organizations. I'm not doubting that they have evidence for whatever they claimed. I just want to give you an antidotal story to the contrary.

And then also, the people that come to our store from Pennsylvania, from other places, and the feeling of independence they get when they are able to buy marijuana for the first time, their choice to use

marijuana for whatever reason, for whatever condition that they're trying to treat, and they come to Colorado to do it, it is the yoke of tyranny being lifted from their shoulders that they feel. They literally will just jump up in the air and give a hoot or holler because it's such a sense of freedom.

And to see people still suffering under the yoke of that tyranny of government that prevents them from getting the medicine that they need is a wonderful thing that I get to experience on a daily basis.

So I hope Pennsylvania does allow Pennsylvania residents, citizens, the right to get this medicine that they so deserve, if needed. And I do want to introduce Gary here.

MR. GREENWOOD: Hello? Can you hear me? All right. Andy here was nice enough to invite us to come and talk along with him. He uses our system, our seed-to-sale system, to add an extra layer of traceability to this program, and so I just have very short testimony here.

First of all, I would like to thank each and every one of you. We've worked really closely with your counterparts and the State of Washington and know what they go through. Your job is a difficult one, and your efforts are much appreciated.

I would like to introduce myself. I'm the

Executive Vice President of Government Affairs for BioTrackTHC. We are a Florida company headquartered in Fort Lauderdale. We've been serving the marijuana industry for over six years.

We designed and developed the mandated marijuana state monitoring system for the State of Washington recreational marijuana industry; and we've just recently been awarded the State of New Mexico's bid to create the monitoring system for their new medical marijuana program.

As I'm certain most here are aware, the Department of Justice issued a memo in August of 2013; and that memo indicates that the strong state monitoring system is the key to satisfy their guidance.

"In jurisdictions that enacted laws legalizing marijuana in some form and have also implemented strong and effective regulatory and enforcement systems to control the cultivation, distribution, sale, and possession of marijuana conducted in compliance with those laws and regulations is less likely to threaten the federal priorities."

"If state enforcement efforts are not sufficiently robust to protect against the harm set forth, the federal government may seek to challenge the regulatory structure, itself, in addition to continuing to

bring individual enforcement actions, including criminal prosecution's focus on those harms."

Our primary concern is to prevent the shutting down of our desperately-needed industry while providing comfort to both federal government and concerned medicines, that this medicine is not being diverted, and that the medicine being purchased has, in fact, passed the required testing and is safe for consumption.

As we review rules from many states with respect to product testing and recordkeeping, we have found that there is no unified platform allowing for easy collection of data for the enforcement of these rules.

The burden falls on the department to actively obtain the data relevant to determine cultivators and dispensing organization's compliance.

We have worked with many of these states' departments prior to the writing so that the state can educate themselves on what options are available in a strong regulatory system.

The monitoring system that the State of Washington uses to oversee the adult-use marijuana cultivators and retailers has been a very effective tool.

Every plant, every fraction of a gram, is visible to the Washington State Liquor Control Board in real time. All products can be forwarded, forward-traced

from seed to sale and backwards-traced from sale to seed.

Lab test results are visible in real time. Wholesale product cannot be transferred without a standardized and electronically-filed shipping manifest to the agency, and the system will block the generation of a manifest if the product fails the lab testing.

Law enforcement can easily, quickly verify information in real time if a cultivator's wet-to-dry ratios are outside of a reasonable range. That also can be flagged.

I can go on and on about the value of having data digitally submitted to the agency in real time enabling the agency to be proactive in ensuring compliance and to hold cultivators and dispensing organizations accountable for the source and the whereabouts of the product and their activities.

The system even provides a solution to the banking problems. Because dispensing organizations can tie cash deposits directly to the sale of what the state considers a legal inventory providing comfort to the financial institutions that the monies that they are handling on behalf of their clients are neither laundered monies nor resulting from the sale of illegal inventory.

We would like to see language empowering the department to implement a state monitoring system in which

cultivators, processors, and dispensing organizations are required to report their inventory data to which testing labs report testing results, so that the department can efficiently spend its time viewing quality and insightful data to enforce the rules that ensure that your state can continue to provide this desperately-needed medicine without federal interference.

We want to make sure that this product gets to the patients for which it's intended safely and effectively while preventing it from being diverted to those who it is not intended.

Politically, both supporters and opponents of legal marijuana, whether for medical or adult use, can get behind technology that brings transparency and, therefore, accountability to the marijuana industry.

We have learned from our experience that many states don't know what to put in their regulations until they see a demo of what is available in a proven technology system.

So at this time, I would like to offer your state a live demo at your convenience to help properly implement the state monitoring system. Thank you.

REPRESENTATIVE BAKER: Thank you very much, sirs, for your testimony. Mr. Williams, you had mentioned that marijuana has been associated with being laced with

other types of drugs. Could you enumerate those drugs that you found marijuana laced with?

MR. WILLIAMS: I haven't found it, but, you know, in research and in speaking with people, I've heard that some people, you know, in the past have laced marijuana with drugs. You can lace it with anything that's made from an oil or a powder. I mean, literally, you can sprinkle cocaine on it if you wanted to.

I'm not part of the black market, and I didn't take part in it prior to becoming a legal marijuana business owner. So I'm not totally familiar with it, but I mentioned it as something that in my research I did see come up.

REPRESENTATIVE BAKER: I have read a fair amount of literature about the black market in Colorado has been created. It's a fairly robust enterprise, as I understand it. And there's a lot of associations with trafficking the drugs. Obviously, there's a class action lawsuit with joining states in Colorado, as I understand it.

But you had mentioned marijuana can be laced with other drugs, and I was just curious as to what other drugs.

MR. WILLIAMS: Anything you can sprinkle on it. But, you know, when you talk about the black market,

the illegal marijuana industry in Colorado didn't create the black market in Colorado. It has always existed.

The legal marijuana industry in Colorado cuts directly into the black market. What we provide is not provided in the black market anymore.

And as far as going from state to state or diversion to other states, yes, there's a lawsuit; but that doesn't prove anything. And, you know, it's a lawsuit right now. And in terms of diversion, it's not coming from the legal side of the house. If anything, it's coming from the illegal side.

Colorado recently just passed a law. So there's two sides in Colorado. There's the caregiver model, if you're familiar with that, and the medical marijuana or retail marijuana model.

The caregiver model is outside of our closed-loop system, and Colorado recently has taken steps to control that, in that instead of having a 99-plant limit for caregivers who would go to other individuals and say, hey, you know, you have a prescription to grow marijuana from the doctor, I will grow those six plants for you, because everyone gets six plants to grow.

So they go to multiple people, get 36 plants or whatever they could grow; and they would grow them themselves. And then a group of those people would work

together, and they would have kind of a consortium of people that would then get a warehouse or whatever and have really a large grow, industrial grow, under the caregiver model that wasn't being regulated like the closed-loop system of the medical and retail marijuana system. And so really, there's no traceability of that marijuana at all.

In terms of me or any other licensed marijuana center being able to divert large amounts of marijuana out of state, it would be impossible. I mean, we track down to grams of marijuana on plants. If there's big discrepancies with that, we're going to get a knock on the door. It's not hard to watch us for that.

REPRESENTATIVE BAKER: Thank you.

MS. KROSSE: Just real quick, I want to indicate for the Members still here and for Members that have already left, the BioTrackTHC has provided us with some handouts for members. We will be scanning them and sending them to you in your e-mail. For everyone else, we will upload them with a list of all the links. So you'll have access to all the information we received today.

REPRESENTATIVE BAKER: Any questions? Represent Cox.

REPRESENTATIVE COX: Thank you, Mr. Chairman. Thank you for your testimony. I've been to hearings in

Philadelphia, Harrisburg, and now here. I've been waiting for testimony like this.

You have touched on so many issues that I have been researching independently, the use of the whole plant, the nature of what promise that cannabis might potentially hold, and the research done in other countries, and the clinical studies done in California.

You know, everyone likes to say there are no studies done, but if you're willing to look at them, there's a lot of studies out there. And Dr. Shackelford highlighted the fact that he's comfortable following the studies that have been done in striving or recommending to his patients.

So with that, I want to thank you for just covering so much information. I wanted to see if you have a recommendation, the combination of the two of you answering this, is there a way to test -- I'm trying to think of another model.

I guess the existing model for how alcohol is processed, we don't go into -- I don't believe we do. We don't go into every brewery or every distillery or whatever and say, you know, we're going to test for a certain level of alcohol as you've got labeled on your bottle.

What do you recommend as far as a practical way

to make sure that if we pass the law that said THC levels cannot be higher than ten percent or whatever, is there a way to do that without drastically increasing the cost?

My primary objective is if we're going to do this, it has to remain affordable and accessible to patients. And so that's my goal, get it into their hands if they need and making sure that we don't ratchet up the costs with unnecessary regulations.

So is there a time, a place in the process that you would recommend for what you've seen that gives us the results that we want making sure the product is what we say it is, but also making sure that it's not creating a financial burden on the company who has to pass it along?

MR. WILLIAMS: Yes. Colorado has done a good job of setting up testing requirements for the cannabis industry that you can look at. Now, you know, I'm not sure how you're going to be setting it up here, how many patients there are going to be, how many plants people are going to be able to grow.

But in Colorado, it's a fairly robust industry, the costs associated with what I'm about to tell you are very bearable and do not cause a significant increase at all in the price of cannabis.

So with our plants, we have to test every strain three times within a six-month period of time. So

right now, I'm writing 57 different strains of cannabis in my facility. So whatever that is, 171 different tests in a 6-month period.

And should any of those tests fail for whatever reason, that regimen keeps up, and, of course, depending on what it failed for, might result in my plants not being able to be used for sale or whatever it might be.

But should I pass those tests during the time -- I'll tell you what we test for in a moment. But if we pass those tests during that time, then the testing becomes less onerous. So I think it's once every six months or something like that that every strain has to be tested.

Anyway, this is something we just started, and it seems to be working really well. It's not a big burden. We started with testing the strength of the cannabis first in terms of the cannabinoids, the THC, and other cannabinoid content that's within the plant.

I would suggest not really limiting what a plant can or can't have in it because there are differences in needs of people. You know, somebody that doesn't use cannabis a lot and wants some beneficial need for epilepsy or something else that a CBD can do, they can do a really low-level THC with a higher level of CBD, and that will help them.

Some people with pain or other things that they really do want a high level of THC and have been using cannabis for a lot of years needs something that has a little bit more potency in order to affect them, just like people that take opioids. Over time, they need more of it in order for it to affect them properly. And it's the same with cannabis. The tolerance is built up.

Other things to test for would be harmful things such as molds or mildews, E. coli, salmonella.

MR. GREENWOOD: That's what they're doing in Washington now.

MR. WILLIAMS: Yep. In Colorado, that's mandatory here in a couple of months as well. I've been testing for that personally for a long time, but it will be mandatory there.

And then also pesticides. So this is the tricky one because, you know, there's pesticides like Abound which help prevent molds and mildews and things like that that's really nice to use and has a low REI, which is the amount of time it would take when you apply it to the time that somebody can enter the room that it was applied safely. It's a four-hour REI, which is rather low. And, you know, on similar types of plants, it's shown to be used in vegetables and things like that; but it doesn't say cannabis.

And the question is, does it really hurt somebody if it's smoked after Abound was used. So is it in the plant at all? So I've done my own studies on that, and I found that that particular chemical does not last if applied properly to the time you harvest it and dry it out. There's nothing in the plant that tested for residuals on that.

There's other products out there that have been known to be used in the past like Eagle 20. And while that product is not out of the plant and then, again, prevents molds and mildews, if applied properly, that plant will have some residuals. I think it's like one part per million or something like that in a plant when it's done.

But is that harmful for a human or not? I have no idea. So setting those limits are the tricky part for your rule making.

REPRESENTATIVE COX: Thank you. Another question I had that you may or may not feel qualified to answer, but in looking at other states, you seem to have explored what other states have done; and, obviously, you chose to operate a business in Colorado for various reasons.

If we, as policy makers, are looking at saying, okay, how do we want to regulate this as far as access,

there's kind of two models. One, I haven't seen other states do, and somebody actually recommended it to me recently.

Most states seem to say, you know, the following conditions. If they list conditions, they list a bunch of conditions. Some of them adopt the catch-all of pain, and that seems to be the problem according to some earlier testifiers. It's kind of a -- it is a true catch-all. And with 90-some-odd percent of people who get an access card or medical marijuana end up getting it for "pain."

In order to avoid that, somebody suggested to me maybe we should, instead of limiting the conditions, limit the types of doctors who could recommend to those who handle those types of conditions.

A neurologist would see patients for any number of conditions; an oncologist, number of conditions, et cetera. And so, you know, four, five, six board certified types of physicians was kind of a suggestion as a way to avoid putting the legislature in the position of being doctors saying treat for this condition but not that condition, even though we don't deal with any other area for opioids or otherwise.

We don't say -- we don't limit off-label use, in other words. FDA says, "We recommend this use for Oxy"

or whatever medication is there. But then the off-label use is prolific. We know that.

Do you think there's a benefit in going down the other road instead of limiting conditions, which I feel gives us an inability to respond to the research that is going to happen? I would like to say, you know, like the medical community -- I think doctors should decide that.

And maybe if people are concerned about it, maybe we limit who can dispense it at this point or who can recommend based on their training as opposed to an artificial list of conditions that may or may not make it on the final list.

MR. WILLIAMS: Yes. That's a good question. Thank you. I like the way you're thinking in terms of letting the research and the doctors have control over, you know, their relationship with the patient.

I'm not sure how that would work with the Board or whatever else. Are you saying the Board would maybe have the decision-making ability for conditions, or would they have to review every application that came in?

REPRESENTATIVE COX: I'm thinking more of saying if you are a Board certified pain specialist or, you know, legislation might say that that individual would be able to recommend.

However, if you are a pediatrician with no Board certification in treating adolescent epilepsy or whatever, and I don't know all the levels of certification available out there, but it would be that mindset that we say this individual, this medical professional, has this level of training, and, therefore, we trust them to take a look at the research rather than having them come back to us and say, we need legislation that adds this condition or even putting it onto the Board.

We've seen state boards in Pennsylvania. We've got boards that look at the vehicle construction code that are months and months and months behind in reviewing applications or changes.

I don't want to create another bureaucracy that puts our patients at risk, that they've got to wait months upon months or even years for a condition to be added when doctors can be doing that kind of in the field because they have the training already.

MR. WILLIAMS: Yeah. The way you're speaking sounds very good. I'm for more freedom in terms of the scientific community and the physician, the doctor community, with the relationship with the patients being able to decide that.

I do worry. I know physicians right now are, in some states, afraid to prescribe marijuana, so making

sure that there's not that hammer hanging over their head if they make a decision, so they feel free to do that.

Even my own doctor won't prescribe marijuana to me. He has been in practice for a long time, and it's something new to him; and he's just not willing to look at it.

So, you know, there's some things you have to get over that hurdle as well. But I like the way you're thinking, letting the doctors and the professionals and the scientific community make decisions. It seems more flexible than, you know, the legislative process and whatnot. There's only certain times that that can be effective.

REPRESENTATIVE BAKER: I apologize. We do have another person waiting from Colorado to testify. We do have a couple more Members that wanted to ask questions. Quickly, Representative Lawrence.

REPRESENTATIVE LAWRENCE: Thank you, Mr. Chairman. And I appreciate your testimony and the fact that you have come all the way from -- you've come a long distance. I came from a long distance. You come from a lot further. I appreciate your willingness to appear before the community today. I don't have any questions, but I'll just boil it down since I know we're pressed for time.

Can you tell me a little bit about -- when individuals come into your business to make a purchase, cash, check, credit card, we've heard a lot of testimony previously in this committee that it's an all-cash business, difficulty with banking, et cetera. Could you talk a little bit about that?

MR. WILLIAMS: Certainly. I've certainly had difficulty with banking. I've had, I don't know, ten banks over the years the five years I've been in business. I usually keep two, one on the way and one I'm going to move to when that one closes me down.

Banking in the last, I don't know, eight months, seems to have loosened up a little bit. I had kind of gone through my list of banks that I had any options for, and I was working without a bank for quite a while, paying employees with cash, paying vendors with cash, paying the state government with cash, et cetera.

Colorado even had to make its own process where our security guards would get those big bags of cash, and they would go into the back room; and they were at the cash-counting machine in order to collect the taxes from us. It was very dangerous for myself, and it's very dangerous for many at large. It's a public safety issue, banking is.

REPRESENTATIVE LAWRENCE: Do you take cash,

check, credit card? Do you take just cash?

MR. WILLIAMS: Right now, I'm taking just cash. I did lose my credit cards about six weeks ago again. The bank that was processing our credit cards went under audit. They got scared, closed us down. They gave us a wink and a nod saying as soon as the audit is done, they're going to get us back on. So this is the kind of thing I deal with on a daily basis.

They're about to turn our credit cards back on right now. I do have a bank right now that is a Colorado bank, privately owned. I feel pretty secure with them. But I am also actively working on getting another bank just in case it gets cold feet.

REPRESENTATIVE LAWRENCE: I assume when you open the account with the bank, they know what your business is.

MR. WILLIAMS: Yes. I'm completely honest. Now, in the past, I got to say, I've been less than open in that they ask me what I do for a living. Like, I call the national bank, and I want to establish an account. And they say, "Well, what do you do for a living?" And I said, "Retail." And they said, "Okay." And they didn't ask me any more questions.

So I didn't lie, but I wasn't open about what I did. But, you know, I have 70 employees. I paid millions

of dollars in construction. Operating a business is not easy without a bank.

REPRESENTATIVE LAWRENCE: So is this account -- and I apologize. I don't mean to be asking personal questions, but it's relevant to the topic at hand and this committee as we move forward.

These accounts, are they in your personal name, or are they in the name of the business LLC or corporate structure?

MR. WILLIAMS: They're in the name of my business.

REPRESENTATIVE LAWRENCE: A corporate Social Security Number and tax ID.

MR. WILLIAMS: Yes, it is in the same of my business. My business was originally formed as Medicine Man Production Corporation. The actual legal name of my business now is something different, something innocuous that doesn't sound like marijuana that I can use on applications such as this without drawing attention, and DBAs are set up for the business names that I use.

REPRESENTATIVE LAWRENCE: I appreciate your testimony. Thank you, Mr. Chairman.

REPRESENTATIVE BAKER: Thank you, Representative Lawrence. Representative DeLissio.

REPRESENTATIVE DeLISSIO: Mr. Greenwood, just

a quick question. Do you know if your tracking system is -- is there such a comparable system for a more tradition pharmaceutical company? Are you aware if they have any such requirements for tracking their product?

MR. GREENWOOD: Well, in Connecticut, it's pretty much a pharmaceutical nature; and they're utilizing our system up there. So I'm not --

REPRESENTATIVE DeLISSIO: I mean FDA-approved pharmaceuticals. Does this type of tracking system exist for --

MR. GREENWOOD: No. I would say not. What we did -- actually, what our program was built on was a doctor shopping back, you know, 12 years ago when we were having the problem. We built the program to defer doctor shopping and tracking, patients that would come in and use the biometric fingerprint. Whereas, they would come in and use their fingerprint. It was encrypted. There was no other information other than that patient was two blocks down yesterday getting the same prescription.

So that's kind of -- we built our software program from the medical aspect. It's HIPAA-compliant, SAS 70 audited. DEA asked us -- they were interested in it. We built some software for the DEA for methamphetamine tracking. So is that kind of where you're --

REPRESENTATIVE DeLISSIO: Well, you were doing prescription monitoring, and we just recently passed that legislation and looking forward to that being up and running in our state. No. I meant just a tracking -- literally a tracking system from when an FDA-approved pharmaceutical is manufactured, you know, through shipped, wholesale, retail, the whole nine years, if any of that is tracked.

MR. GREENWOOD: Right. We do it from seed to sale.

REPRESENTATIVE DeLISSIO: Not for that. For, I mean --

MR. GREENWOOD: Oh. You're looking for the pharmaceutical?

REPRESENTATIVE DeLISSIO: Yes.

MR. GREENWOOD: We have a patent actually on prescribed Scheduled II medications. Is that what you're asking for?

REPRESENTATIVE DeLISSIO: Not quite, but I think you still answered my question. Thank you.

REPRESENTATIVE BAKER: Thank you. Representative Jozwiak.

REPRESENTATIVE JOZWIAK: I thank you for your testimony. Just real brief, when you were talking about an all-cash business, I'm curious, how much has the crime

increased in your neighborhood or your areas where people are doing this? Is there more armed robberies or anything like that? You must have a heck of a secure system.

MR. WILLIAMS: I do. I spend a lot of money on security. I've been in business for about five and a half years now, and I've never had a robbery; and it's because I do have great security, and the neighborhood has benefited from it.

You know, I have security 24 hours a day. I have cameras set up, you know, all around the perimeter of my building as well as the interior of the building is monitored. I even have license-plate capable cameras on the outside and great lighting.

So my neighborhood has benefited from me being there. And in Colorado, most facilities are legislated not to the same extent that I'm guarding my facility, but to a big degree in terms of cameras and security systems and things like that.

REPRESENTATIVE JOZWIAK: So are you saying that with this all-cash business, that the crime has not increased, or it has? And not just your facility, any facility.

MR. WILLIAMS: I do hear of other places that have been robbed, sure. I think 50 percent of all Colorado marijuana facilities have been robbed or

burglarized in the last five years if they were open for that long. And so, sure, it's a target. And resolving our banking issues would help get the perception away.

Even when I do have a bank, it doesn't matter because the criminal mind, the perception is reality, and the perception is that I'm just rolling around in cash in my office, which isn't the case; but that's what they may think, which is why I need to protect my business, my employees, and my customers in order to guard against that perception.

REPRESENTATIVE JOZWIAK: Thank you, Mr. Chairman.

REPRESENTATIVE BAKER: Thank you very much. That concludes the questions for the panels. Thank you very much. We do have Sergeant Jim Gerhardt, Vice President of the Colorado Drug Investigators Association. Thank you, sir, for being patient. You may proceed when you're ready. Can you hear me?

SERGEANT GERHARDT: I can. You guys ready?

REPRESENTATIVE BAKER: Yes. You may proceed.

SERGEANT GERHARDT: All right. I'm Jim Gerhardt. I'm a police sergeant here in Colorado, and I'm assigned to a drug task force that does undercover drug investigations. Basically, any type of drug trafficking organization, we work. I've been in law enforcement here

for 27 years and have been assigned to drug enforcement for 17.

I've certainly been involved with seeing the rise of the issue with allowing marijuana for medical use here in Colorado, which ultimately led to full-blown recreational legalization here and the industry that came about because of all of this.

So I've been in the middle of all of it. At this point in time, I wasn't too sure what was going to be the most helpful for your committee to hear. So I wanted to basically offer myself up mostly for questions.

As the Vice President for the Colorado Drug Investigators Association, I'm also a legislative liaison. So I work very closely with our legislature here in Colorado.

And, of course, every single year since we've gone down this path, we are deluged every single legislative session with a number of pieces of legislation that are designed to do a number of things.

But, you know, 10, 15 years ago, we would have zero pieces of legislation on marijuana. And for the last 5 years, we've averaged anywhere from 8 to 15 pieces of legislation per session; and it just shows you what a complicated issue this is, and we haven't done a very good job dealing with all the problems here in Colorado. So

anything I can do to be helpful, I would be happy to discuss.

REPRESENTATIVE BAKER: Absolutely. If you could just briefly outline some of those problems that you generically referenced, has crime gone up, traffic fatalities gone up? Tell us, as an undercover agent and someone who is on the ground with this issue, what are some of the challenges and problems there?

SERGEANT GERHARDT: The best data that's being collected right now is being done by the Rocky Mountain High Intensity Drug Trafficking Area Office. I don't know if you're familiar with the reports that they release.

But basically what they try to do is essentially gather statistics. There's no editorializing involved in what they publish. It's simply a collection of stats.

And the data is showing that the more we have sort of embraced the use of marijuana and the allowance of marijuana, our youth-use rates have been climbing. We're well over the national average. Our adult-use rates are climbing. The number of drug-impaired drivers due to marijuana on the streets are increasing. We're seeing fatalities as a result of that.

The dispensaries, themselves, haven't -- we haven't had a jurisdiction out here yet that has really

attributed a big uptick in crime to the actual dispensary locations. They do get burglarized. There have been a few robberies here and there. But generally speaking, it sounds like California has really experienced a huge problem with the dispensaries that they have operating there. We haven't really seen the same kind of problem here.

But once the marijuana is available, it's getting into the community, and you have people diverting it then to underage people all the time, school kids.

Edibles has become a huge problem here, highly, highly concentrated form of THC that are getting baked into cookies and brownies and anything you can think of that then get into the hands of children.

We're seeing hospitalizations and poisonings of kids just climbing every single year. Rocky Mountain Poison Control and Children's Hospital are seeing these cases with increasing frequency. All of those issues are certainly a problem.

But just trying to keep track of where the marijuana is going, the various ways it can be diverted, it's a highly-profitable substance, even here where it's legal. It's still selling for $150 to $300 an ounce, and an ounce will roll you into about 60 joints.

So, you know, if you were to compare that with

cigarettes, the cost of cigarettes would be roughly $15 an ounce comparably to what you have in marijuana at $150 to $300 an ounce. So people can grow it and sell it much cheaper than they can in a retail setting.

A lot of people here blame the tax rate for why we still have a black market and we have diversion of marijuana. Well, the tax rate is not 1,100 percent.

So really, it's because of the fact that, you know, even though you have a lot of people using here, you don't have the same use rates as you do with tobacco and alcohol. So it's not yet a true volume business to where those prices can come way down.

Thankfully, it's not a big volume business in terms of that, but there is enough profitability there. We see in-state diversion, we see out of state diversion.

We have a UPS and FedEx facility here in our jurisdiction. We get calls almost daily with intercepted packages of marijuana that are being sent to your state and to any other state, and then money is being funneled back into groups here in Colorado that are making huge profits off of that.

But the in-state diversion is still a big issue as well. People get on Craig's List. They sell it on Craig's List. We have people from other states that come in, and they don't want to pay the cost of the retail

marijuana. So they're setting up deals, they're getting robbed. We've had shootings over this. We've got home invasions involved with this.

So there have just been a tremendous amount of problems, and these problems really started when we allowed marijuana for medical use; and people started diverting that, and the industry came in and mass-produced these products, mass-produced marijuana.

We saw huge, huge problems in that. And really the full legalization of marijuana has certainly thrown fuel on that fire, but we had a pretty huge fire going prior to that.

So here in Colorado, we allow in-home growing. Private people can grow marijuana as well as we allow the recreational and the licensed shops. Both of them have their own unique problems. Both of them are issues in different ways. And we have both here. So we have everything. We have a little bit of all of it.

REPRESENTATIVE BAKER: Sergeant, has it gotten worse since the legalization? I mean, we had a previous testifier try to explain that there was a black market, there were a lot of problems before legalization; but it sounds like the legalization just compounded it and made it much worse. Is that accurate?

SERGEANT GERHARDT: That is accurate, and

there's a couple of reasons for that. First of all, medical marijuana cardholders now have a certain legal right to certain amounts of marijuana and plants. The shops are supposed to be catering to that specific population.

What we found is that because it's such a profitable product, it gets into the community in different ways; and our time investigating whether or not these grow operations are legal or illegal or whether the marijuana is being provided to somebody legally or illegally, you wouldn't believe the number of ways people can scam the system to make it look like they're legitimate, but they're actually doing a lot of illegal activity.

And trying to prove that now, it just takes a tremendous amount of time and resources. For example, we encountered a gentleman who was growing marijuana in his home, large amounts. He was transporting it around with him, but he kept paperwork in his car for certain patients. So any time he got stopped, he simply pulled out that paperwork and claimed, "Well, I'm making a run for these patients that I'm a caregiver for." And how does a patrol officer know that now? How do they verify that?

So you almost have to take people on their word

to some degree. And what this guy was really doing was running an Internet business where people were sending him orders, and he was out filling orders all day long.

But it took us weeks and weeks to sort that out versus, you know, when marijuana was strictly an illegal commodity, if people had it, it was illegal; and if they were selling it, it was illegal.

Now, there's a thread of legality to these things that makes our job much, much more difficult; and it doesn't free up law enforcement resources. It consumes them trying to deal with this.

REPRESENTATIVE BAKER: Thank you very much. I know other Members have questions. Chairman Marsico. He waives off. Any other Members? Okay. Very good. You did an outstanding job. Thank you, sir. No other questions.

SERGEANT GERHARDT: All right. Thank you.

REPRESENTATIVE BAKER: We appreciate your testimony. Thank you.

SERGEANT GERHARDT: You bet.

REPRESENTATIVE BAKER: Good afternoon. Welcome, and thank you for your participation. Next we have Robert Calkin, CEO and founder of the Cannabis Career Institute, and Dr. Jerry Bedore, President of Cannabis State University.

MS. KROSSE: We just have one.

REPRESENTATIVE BAKER: Oh, we just have the one. My apologies. One is withdrawn. Are you Mr. Calkin?

MR. CALKIN: Yes, sir.

REPRESENTATIVE BAKER: Okay. You may proceed when you're ready, sir.

MR. CALKIN: All right. My name is Robert Calkin. I'm with the Cannabis Career Institute and Cannabis State University. I have another company to help train people in the industry to create their own businesses, and I had some concerns and some issues that I wanted to just bring up as far as what I would do if I was going to help create some kind of medical marijuana program.

So I don't know if you have the outline in front of you, some of the things that I was going to propose. But are you able to hear me?

REPRESENTATIVE BAKER: Yes, we can hear you. You may continue, sir.

MR. CALKIN: Great. When you're creating a medical marijuana program, obviously, you want source material, i.e., marijuana that's going to be medical quality and it's going to address the concerns of the patients.

So I believe that it would probably be in your best interest to consider creating some kind of a place where the original source material comes from so people don't have to break the law, in other words, to bring the original seeds, tissue culture, clones, to the state.

The state, itself, could be in charge of deciding what kind of source material that would be. In other words, from the beginning of the program, you would know exactly what the genetic structure of the plants were; and you could basically create somebody that was in charge of this program so that all of your cultivation centers got source material from the beginning that was scientifically known and charted and maybe even created a genome bank that would allow the state to know exactly what kinds of plants were being grown in the cultivation centers.

I think that's a problem that a lot of states we're seeing, that the marijuana that's being sold is not actually the kind of marijuana that it's supposed to be.

So if you could first try to create some organized method of the source material from the beginning so that you can track it, that would be my first suggestion. And then you would be able to do a research on creating diseased-specific strains and growing diseased-specific strains for your state.

You would even be able to create some kind of differentiation between your CBD and THC products, and it would be a lot easier to do that if you were in control of that. Not only that, but the state, itself, would make revenue from doing that.

I also think that you guys need to provide some kind of a state-approved counseling, training, or education program for the public so they know how to utilize the medical marijuana program and, perhaps, create some kind of training programs for your doctors, your cultivators, and the patients who are going to be using the medical marijuana program.

The other thing I wanted to point out is I think that if you want to get the public on your side and help them to understand the importance of this program, we could create a way for the homebound, the terminally ill, veterans, and the handicapped to have a job program that's accommodated by the medical marijuana crew.

These kind of jobs are jobs that anybody can do like trimming, packaging, preparing the products for distribution. So if you could create a job program that would provide for all the handicapped folks and the veterans in your state, I think that would go a long way in creating a good public service.

REPRESENTATIVE MARSICO: Mr. Calkin, are you

finished with your testimony?

MR. CALKIN: Yes, sir.

REPRESENTATIVE MARSICO: Okay. This is Chairman Marsico. Do any Members have any questions at all?

REPRESENTATIVE DeLISSIO: Ron, I have one.

REPRESENTATIVE MARSICO: Representative DeLissio.

REPRESENTATIVE DeLISSIO: Thank you. Mr. Calkin, are you aware of any state who has actually done an original source of material as they got their program underway? I know a couple of states have passed, haven't begun to implement it. But are you aware of anyone that's considering that?

MR. CALKIN: No. As a matter of fact, if I was going to create a medical marijuana program, that's where I would start. I would appoint somebody that was a scientist or a doctor who was in charge of deciding which strains would be appropriate for the state, and then I would organize that in a way so that all the cultivation centers were growing each strain or the strains that were supposed to be appropriate for those patients and that state; and hopefully those cultivation centers would be able to work with each other.

And, perhaps, then they would all grow things

that were specifically needed, and they wouldn't have to each replicate what they were doing; and they would be able to trade or do business with each other because they would be tracked.

REPRESENTATIVE MARSICO: Any other questions?

(No response.)

REPRESENTATIVE MARSICO: Seeing none, thank you, sir. We appreciate your time and your testimony today. Thanks for your patience as well.

MR. CALKIN: Thank you. Gary Bedore is available to talk to you now.

REPRESENTATIVE MARSICO: Dr. Gerry Bedore.

DR. BEDORE: I'm sorry. For whatever reason, I can't get any volume. I can't hear you.

REPRESENTATIVE MARSICO: You can't hear me? You can?

DR. BEDORE: Barely.

REPRESENTATIVE MARSICO: Well, we want to hear you. So it's important that you give your testimony. We'll try to ask questions. So go ahead and begin.

DR. BEDORE: Okay. Thank you. All right. Thank you very much. My name is Gerry Bedore. I'm a Ph.D. I live in -- I apologize. I'm getting a delay.

REPRESENTATIVE MARSICO: Can you hear me?

DR. BEDORE: Hello?

REPRESENTATIVE MARSICO: Yes. Can you hear me?

(Discussion held off the record.)

REPRESENTATIVE MARSICO: What we're going to do then is we're going to move on. Our next testifier then would be Patrick Nightingale, Esquire, NORML-Pittsburgh. Welcome Patrick. You may proceed.

MR. NIGHTINGALE: Thank you, Chairman Baker, Chairman Marsico, and Members of the Committee for the opportunity to present testimony today on the issue of medicinal cannabis and the experience of other states that has some form of medicinal cannabis program.

My name is Patrick Nightingale, and I'm the executive director of Pittsburgh-NORML, a local chapter of the national organization for the reform of marijuana laws. I'm also board advisor to the Pennsylvania Medical Cannabis Society.

Professionally, I'm a practicing criminal defense attorney here in Allegheny County, and I began my career as a prosecutor right down the hall in the district attorney's office for the first six years of my legal career.

I've been asked to summarize some of my comments, and I'm going to do that. But prior to doing so, I must take this moment to respond to one of the

comments I believe Ms. Rusche, who was telling you that the National Organization For the Reform of Marijuana Laws was using medicinal cannabis reform as a red herring in order to advocate for the legalization of methamphetamine, cocaine, and heroin. That is an absolute lie and fabrication.

The National Organization For the Reform of Marijuana Laws has never advocated for the legalization of heroin, methamphetamine, cocaine, nor will it do so. We are here to advocate for the reform of marijuana laws and for the complete prohibition repeal.

Now, to the extent that prior witnesses want to suggest that we cannot move forward with bringing relief to sick Pennsylvanians because some other people in some other states recreationally use marijuana is something that I would suggest, ladies and gentlemen, is reprehensible.

We are here because Pennsylvanians are critically ill. We are not here to have a discussion about whether or not Colorado should have legalized recreational marijuana. We are not here to have a discussion or to look at pictures of people smoking marijuana on April 20 in Colorado. That is not what this is about. I want to have that discussion on a different day. Today, we are here to talk about how to help sick

Pennsylvanians, and I want to make that clear.

Now, ladies and gentlemen, I had the privilege of coming before the Health Committee for the first time in 2009 when it historically held the first hearing in the Commonwealth of Pennsylvania on medicinal cannabis.

I can remember the excitement of that day. Activists and patients gathered in Harrisburg. We were quite sure that we were moving forward. We had the support of 70 to 80 percent of Pennsylvanians on our side in 2009.

And I remember well Representative Baker's firm opposition. But we assumed it was inevitable. Now, a lot has happened since 2009, and we have seen medicinal marijuana move forward to the point where we now have 23 states in the United States of America. Over 100 million Americans have access to medicinal cannabis.

If some of these -- you know, we don't know what is going to happen, we are concerned about the long-term effects, if any of this was actually materializing, we would have seen it. It would have taken place.

Prior hearings have involved the Pennsylvania Medical Society saying, "We cannot support this because we don't know the long-term effects of it." And when we parse those comments a little bit more, they said, "We

can't support this because we don't know if our doctors are going to be sued for professional negligence."

Ladies and gentlemen, we have 23 other states that we can look at. We have millions of Americans utilizing medicinal cannabis throughout this country in a responsible and well-regulated fashion.

Now, when we look at the experience of these 23 other states, we have programs that range from the California model, which is not regulated whatsoever, passed by ballot initiative in 1996, and left up to individual counties in California to regulate.

As a result, we hear these fanciful stories about, oh, I have a sore toe, so I went to a physician on Venice Beach, and I got my medical marijuana card.

Well, you know, ladies and gentlemen, with the Bill that is pending before the senate and the Bill that was introduced into the House by Representative Cohen, it can't happen here.

We are not opening up the California model where we pass it and leave it for someone else to decide. Our Bill contemplates a highly-regulated model that would ensure that the abuses that some witnesses and some Members of this Committee are concerned about simply can't happen in Pennsylvania.

Now, what are some of the experiences that we

have seen in these other states? We have seen very effective programs, such as Colorado, such as Oregon, where the issue of patients come first, and the issue of regulation is something that is then addressed.

Now, I'm not suggesting that we just throw this out into the wild and let, you know, any patient who wants it have it; but what I am suggesting is that if we approach a regulatory model that is overly comprehensive, that regulates the effectiveness of this program out, then we're not doing anything for our sick Pennsylvanians.

All we have to do is look across the border to New Jersey. Every time we have had medicinal marijuana conversations in the Commonwealth of Pennsylvania, our fellow activists in Philadelphia and New Jersey say, "Whatever you do, don't let what happened to us in New Jersey happen here," because they were left with a program that they were promised would be fixed somewhere down the line, just get anything passed, and then a governor who was very hostile to medicinal marijuana was elected; and they still have a medicinal marijuana program that is barely servicing any patients whatsoever years after it had been passed.

So, ladies and gentlemen, what I'm urging you to consider, I'm urging you to consider the needs of Pennsylvanians. We have had families here with

critically-ill children, who are today contemplating moving out of state, uprooting their family, uprooting their support systems, moving away from their physicians and their neurologists because they are desperate.

This is not, you know, patients who are thinking, you know what, I might want to try some weed, it will probably get me high, and it won't cost me as much at the pharmacy. That's not what we're talking about.

We're talking about people whose lives are on the line. We're talking about Pennsylvania veterans who suffer from PTSD and who need the type of relief afforded by medicinal cannabis.

What I'm asking you to consider is the needs of these patients and not to place overly-restrictive arbitrary conditions on delivery systems.

We have heard testimony before this Committee, and we've heard testimony in the senate that vaporization is one of the most effective and immediate delivery systems available. It's safe. It's well-controlled. It does not involve carcinogens or the burning of any cannabis whatsoever.

We had that in our Bill. We now have nebulizers, nebulizers. Nebulizers don't exist. Cannabinoids cannot be delivered via a nebulizer. GW Pharmaceuticals would like us to believe otherwise, and

we've heard a lot about how GW Pharmaceuticals is going to come to the rescue of these critically-ill children maybe in 2016 with their synthetically-created pharmaceutical drug called Epidiolex.

Well, ladies and gentlemen, number one, I don't think that we should wait for GW Pharmaceuticals. I don't think that Pennsylvanians should be told that a natural medicine that's available right now, right here in Pittsburgh isn't good enough, that it has to be synthesized into a pill, given to them by a pharmaceutical company.

And, ladies and gentlemen, I also want to emphasize that the issue of FDA approval is a true red herring. It will not happen. The FDA does not independently conduct clinical trials. They don't sit back and say, you know what, let's study marijuana today or let's study opiates tomorrow.

The FDA reviews clinical trials and studies conducted by patent holders, and those patent holders are seeking FDA approval so they can bring a medication to market.

There are patent holders of cannabinoids. The United States of America holds Patent No. 6630507, which gives the United States of America exclusive rights on the use of cannabinoids for treating neurological diseases

such as Alzheimer's, Parkinson's, and stroke, and diseases caused by oxidative stress such as heart attack, Crohn's disease, diabetes, and arthritis, the same United States that calls cannabis a Schedule I controlled substance.

Is this patent holder that claims on the one hand through the Drug Enforcement Agency that marijuana is Schedule I with no medicinal benefit whatsoever, or will this patent holder that holds a patent on the neural protectant and the antioxidant properties of cannabis be coming forward with clinical studies for FDA approval?

It's not going to happen. It is a red herring. It's not going to take place unless there is massive rescheduling on the federal level.

In the meantime, what happens to Jessica Hawkins and Antoniya? What happens to Heather Schucker and Hannah? What happens to Julie Michaels and Sidney? What happens to Iraq War veteran Joseph Mert? What happens to our Pennsylvanians while we wait and wait and wait and wait.

Either we die, or we move. And ladies and gentlemen, I would submit that that is not in anybody's best interest, and that is not a service to the patients and the citizens of the Commonwealth of Pennsylvania.

I would like to thank you very, very much for giving me the opportunity to address this critical issue.

I would like to thank you very much for your participation. We've had a long marathon day, and I can tell that everyone here considers this to be a very important subject; and I thank you for that.

And I'm going to close my remarks and be available for questioning by simply saying please, please, please, put Pennsylvania patients first. The rest will work. The rest will work itself out. Do you know why I beg you? I'm begging you because cannabis is a nontoxic natural treatment alternative.

No one in the entire history of the human race has ever died from acute cannabinoid toxicity. You can't die from it. It's safe. Every single day, people are taking opioid prescription medications for which, you know, they can easily accidentally unintentionally overdose and die.

Even Willie Nelson, Tommy Chong, Snoop Dogg, and whatever celebrity you want to look at, trust me, they've tried to overdose on marijuana. It cannot be done. Ladies and gentlemen, thank you. And with that, should you have any questions, please.

REPRESENTATIVE MARSICO: Any questions? Can you hear me? Okay. Have you spoken with the congressional delegation in Pennsylvania?

MR. NIGHTINGALE: On the federal level?

REPRESENTATIVE MARSICO: Yes.

MR. NIGHTINGALE: Yes. NORML has reached out, and we support the Careers Act, which is pending right now, which part of it would involve rescheduling from Schedule I to Schedule II to allow the type of research that's prohibited right now.

And we absolutely agree that marijuana, at the very least, should be a Schedule II controlled substance, because it would at least enable us to have a realistic conversation with the federal government. Yes, it has got medical efficacy. I mean, cocaine is Schedule II, for example. But marijuana is Schedule I.

And it's Schedule I completely arbitrarily and by accident. There were no governmental studies that concluded that marijuana should be Schedule I.

The only study about whether or not marijuana should be Schedule I, II, III, or IV was conducted by former Pennsylvania Governor Raymond Shafer from Meadville.

Richard Nixon in 1970, 1971 asked Governor Shafer to chair a commission called the Commission on Marijuana and Drug Abuse because President Nixon needed to know where congress should put marijuana, Schedule I, Schedule II, Schedule III, Schedule IV.

And while he was waiting the results of the Shafer commission, marijuana was placed in Schedule I temporarily. Unfortunately, Governor Shafer did his job a little too well for President Nixon's liking, and Governor Shafer recommended that marijuana be regulated in a manner similar to alcohol and not be scheduled whatsoever.

It has remained Schedule I ever since. So if someone says to you, "Well, it's Schedule 1 for a reason," no, it's not Schedule I for a reason.

REPRESENTATIVE MARSICO: Let me ask you, though, when you spoke to the Congressional Delegation, what was their response?

MR. NIGHTINGALE: Their response was tentative. Their response was, "we will see where this goes." There doesn't seem to be that type of real emphasis on the federal level to move forward with this, which is why things are so critical that we move forward on the state level.

REPRESENTATIVE MARSICO: Representative DeLissio.

REPRESENTATIVE DeLISSIO: Thank you, Chairman Marsico. Mr. Nightingale, is that commission report from the 1970s available?

MR. NIGHTINGALE: Absolutely, and I'll be

happy to share it with you. It's approximately a 600-page report called, "The Commission on Marijuana and Drug Abuse" authored by former Pennsylvania Governor Raymond Shafer, and it will be available to you this afternoon.

REPRESENTATIVE DeLISSIO: Thank you.

REPRESENTATIVE FABRIZIO: Give me a report on that.

REPRESENTATIVE DeLISSIO: Okay.

REPRESENTATIVE MARSICO: Thank you very much, Patrick. We appreciate your time.

MR. NIGHTINGALE: Thank you very much.

REPRESENTATIVE MARSICO: I think we have Dr. Bedore. Dr. Bedore, can you hear me? Dr. Bedore? Gerry? Dr. Bedore. I thought we had Dr. Bedore.

DR. BEDORE: Can you hear me?

REPRESENTATIVE MARSICO: Yes. Go right ahead. Begin.

DR. BEDORE: Can you hear me?

REPRESENTATIVE MARSICO: Yes, we can.

DR. BEDORE: Okay. Thank you very much. Hi, everyone. My name is Dr. Gerry Bedore, and I am a resident right now currently in Northern California, have been for the last few months. Previous to this, I was in Arizona.

I've worked with Robert Calkin, who has spoken

earlier, for quite some time now and have been to a lot of states and have seen a lot of the issues.

There are a couple of things I would like to input into. First, the gentleman that just spoke before me, thank you so much for what you had to say. I can tell you that I am a Ph.D., and I work with a group of dermatologists, OB/GYN and other people; and there's no treatment left. There's no treatment options. There's nothing left in the toolbox for these people, whether it's something to do with cancer or whether it's gout or whether it's shingles, or whether it's just a myriad of things, PTSD. I can sincerely say with the data I gathered with working with people for so long that this is real medicine, and it's very meaningful; and it needs to be treated like that.

I think in many cases, what is really needed is people need education. People need to understand what this is and what it means to their health and to the health of those around them.

I mean, there's a lot of people that I note out in communities that will make comments or judgments on somebody that uses medical marijuana, medical cannabis, without even realizing or knowing what is in that person's background.

There's still a lot of stigma out there.

There's still a lot of prohibition mentality out there. I really think that a really good approach is to bring people up to speed about this.

I talk to many people. They all told me that (inaudible). They understand what THC is, though. And, you know, we see legislation in some states that want to restrict THC and those kinds of things in the medicines that are not provided for a means for people to gain access to the medication. And these are very real problems. I get calls from all over the United States.

I ran the legislation that's being proposed now, the framework for it that was sent to me. And I got to tell you, I really think you folks have done, just up to this point, just a spectacular job in what I see given the problems that we have in Northern California with people wanting to come into the industry, wanting to be players, and they don't know how to do that. There's not even a framework in place for them to be able to do that.

If they want to cultivate or they want to extract, what do I need to do to get a permit? Do I need to have the EPA sign off, the water department, the power company signing off? What do I need to do here? They don't know.

So the next thing we have is bulldozers taking down forests, and we have streams being diverted, and we

have a toxic runoff in the streams, and those kinds of things.

They want to be visible, and I've attended meetings recently in Humboldt County and at the state capitol and Sacramento and others, and this is a really big issue, environmental damage, and those kinds of things.

The context in which you have things now seems like it would mitigate a lot of that, because it is pretty straightforward; and the cost for the licenses and those kinds of things seems to be do-able.

Now, one of the things in listening to the gentleman earlier speaking related to law enforcement and those kinds of things and the black market issues and that kind of stuff, if people from -- if the perception is out there within the community -- because a lot of people are going to want to come in and play in this space. It's a highly-innovative space.

Small business owners want to be in it. Entrepreneurs want to be in it. And if they're seeing the perception that there's no way we can get in it, there's no way that I can be involved with this or any other way, then that, again, is just another pathway for encouraging the black market activities and those kinds of things.

So I just wanted to put out a little bit of

this, again, to what Mr. Calkin had to say. There's lots of opportunities here for folks, for veterans, and not only for jobs, but for treatment and those kinds of things, for homeless.

I hope there's pathways inside of this for people who may not have the money for the medications, that there are mechanisms in place so people do have access to this medicine.

It is serious. I think one of the great things I like and what I see in the overall theme of the legislation as -- as I see it, I've been able to review it, is that it is supporting this effort. It's not like we're going to legalize this and then say, but we're going to put all these sticks in the spokes and all these road blocks along the way and only a few people can play, but other people can't play, and all of these kinds of dynamics going on.

It actually supports a state that says we're doing this, we're doing this for the people of Pennsylvania, and we've doing it to help all those that have these needs out there. The needs are many, and there's plenty of evidence to support that.

Well, obviously, there's a lot of research that needs to be done. What a great place to do that, in Pennsylvania. People interacting with things like a

genome bank where they get strains and where they can register strains from.

Other people being able to use inside of their cultivations and those kinds of things. It incentivizes the strain bank to grow and allows the state to be able to caption, control, and regulate right from the beginning of the process; and that is the source material.

I mean, if we think about it right now, where is the source material right now going to come into Pennsylvania from, or is that source material already there? Should it be there? I mean, these are the kinds of issues that come up.

And being able to tag or to mark these strains, these plants, and have a place of kind of maybe a genome bank exchange where people can come and get product and at the same time be able to contribute to that, to where maybe they're able to realize some kind of monetary gain if they do develop a really great strain that handles some kind of a medical situation or some need within the community in addition to the state being able to make money from that and being able to track it and that kind of thing.

It even incentivizes the growers to do that and to contribute and to actually use that bank versus I'm going to grow these things off, you know, over here on the

side for these people, and I'll grow this other stuff for those people; and then the next thing you know, we're all over the place with it.

And that is one of the problems I've seen in Northern California. A lot of times, you'll go into a dispensary, and you'll call someone for delivery; and they're selling you a strain, and they label it something like "Blue Dream," whatever. But can they back it up? Do they really know it's Blue Dream?

No. It has been hybridized so much over time. You don't even know what the source material is that they're getting going into their work. And then when they -- by the time they get into hybridizing one thing that they're not sure of, then another thing they're not sure of, then the next thing you know, you've just got this suit, if you will. And it's hard to make sense of that when we have the capability to bring university researchers and corporate researchers and these kind of people into this space and to really be able to advance in sciences.

With that, I'll be quiet, and I thank you for your time. And, wow, what a great job. Thank you, folks. This is pretty outstanding. It's some of the best legislation I've seen.

REPRESENTATIVE MARSICO: Due to additional

technical difficulties, we're not able to ask Jeremy questions; but we appreciate his time and his testimony. Next to testify is Andy Hoover. Andy is the Legislative Director of ACLU of Pennsylvania. Welcome, Andy. You may proceed.

MR. HOOVER: Thank you, Chairman, Members of the Committee. Thank you for the opportunity to be here today. I will summarize my testimony. It's relatively short, anyway, so it will be an easy reading for you; but I can summarize it to make it even shorter.

I'm here today on behalf of the ACLU of Pennsylvania and on behalf of our 23,000 members. We are a nationwide organization, as you know, with a membership of 600,000 people across the country; and we come to the table on this issue because we believe it is an issue of liberty.

No one should be punished for what they put into their own bodies. And specific to medical cannabis, few things are more private than a person's choices about their medical treatment and what substances they put in their bodies. Medical cannabis laws seek to protect these rights.

Now, as you've heard already today, 23 states and the District of Columbia currently have some form of medicinal cannabis authorization; and we've also heard

that those practices vary widely across those 23 states and D.C.

So I want to put on the table some best practices ideas that the ACLU supports. And the goal really is twofold. One is ensuring that as many patients as possible can access this medicine and that they have legal protection as well.

So I want to start with having a wide variety of delivery methods. You heard both Mr. Nightingale and Mr. Williams talked a little bit about delivery methods and how important it is that they vary under the law.

Some patients will benefit from inhalation. They need relatively fast medication for things like nausea or pain or appetite stimulant. And so inhalation like smoking or vaporization is really important for them.

On the other hand, you do have patients who would be at higher risk through inhalation such as children. They'll benefit from a slower-acting delivery that is low in THC. That includes things like oils and food-based medicines.

There are some states that explicitly allow food-based delivery. Three states and the District of Columbia have that in law. And to protect a patient's safety, it is important that manufacturers follow existing

food and beverage guidelines.

I also want to mention personal cultivation. This hasn't really been discussed yet today. But 15 states do allow personal cultivation. This is important for this reason: Without it, medicinal cannabis is a medicine of privilege for two reasons.

One, if you do not have personal cultivation, then only the people with means will be able to access it. This is medicine that will not be covered by health insurance, and so people who do not have insurance will not -- people will be paying straight out of pocket.

So if you do not have the income to do that, then you're going to be stuck. Second, you could run into situations where a municipality may not want to approve of a dispensary in their town.

I was talking with a Member in the hall earlier during the break. He used the example of the casino in Gettysburg and how Gettysburg fought that casino. You could see the same kind of thing happen here. So that's why it's important to have personal cultivation, so that people don't face de facto prohibition because of where they live.

I also would recommend a nondiscrimination protection. This goes beyond employment. Workers should not face employment discrimination while using legal

medication for a medical condition, so a strong nondiscrimination provision is imperative to medical cannabis legislation.

Seven states have some form of workplace protection, but the strongest are in Arizona and Delaware. In those states, employers are specifically prohibited from terminating employees who test positive for marijuana and who are registered patients as long as the medication is not used in the workplace.

Some states actually have protection from discrimination for being a registered patient, but they don't take it further to protect people when they test positive. So you have someone who's a patient but who's at risk by taking the medication, they could be fired from their job.

My testimony refers to a client of ours in Michigan, and there's a footnote there, Footnote No. 8, which has a link to more information about his case and happened to him. It includes a four-minute video with our client, Joseph, when he talks about how he was fired from his job at Wal-Mart.

He was a registered patient. He was using medical cannabis for a brain tumor, but he was fired from his job when the drug test came back positive. That's why a full employment protection is so important.

I also would mention that the protection from discrimination goes beyond employment. It also includes housing, education, child custody, and organ transplants. And Arizona's nondiscrimination protection includes those categories.

Another best practice is ensuring there's no statutory limitation on conditions. There has been some discussion of this today. I won't go too far into it.

But as you know, there have been versions on this legislation here in Pennsylvania that has had a list of conditions for which medical cannabis could be used.

We believe that physicians are in the best position to make those decisions about whether or not cannabis is helpful for their patients. California and Massachusetts allow the physicians to make that decision. There are 13 states, plus the District of Columbia, that include a process for adding new protections.

If the legislation of Pennsylvania is going to have that process, it should be one that expedites it so you don't get caught up in bureaucratic red tape.

Finally, I just want to mention some important protections under criminal law. Patients who are carrying medicine could be subjected to a variety of criminal penalties intended for people using cannabis recreationally. So legal protections for patients should

include, but not be limited to, clarifying DUI law, an exemption from probation and parole violations for registered patients, prosecutorial immunity for patients, exemption from civil acts of forfeiture for patients, and clarity in police search and seizure power.

I want to conclude with something that is not in my written statement but I've been thinking about in the last few days. I've worked with both of your Committees, the Judiciary and the Health Committees. I've worked with the ACLU of Pennsylvania for ten years. And all of you know that defending civil liberties sometimes is controversial.

In fact, just yesterday, we had a federal court ruling in the district court in the middle district on a controversial issue that was in front of the judiciary committee.

I've never worked on an issue that had 88 percent support as medical cannabis does. According to a PA poll that just came out about a month ago, it showed 88 percent support across the state for this issue.

And so that combined with the stories of patients who are desperately in need I believe brings a sense of urgency for the legislature to get this done. I hope you do, and I would love to work with you on that. So thank you.

REPRESENTATIVE MARSICO: Any questions? Representative DeLissio.

REPRESENTATIVE DeLISSIO: Thank you, Chairman. Andy, the protections you call out, are you calling them out just in general or because they're currently in the same presentable grade?

MR. HOOVER: I would have to go back and double-check that. I know that a version from the previous session, SB1182, did have that protection. I want to confirm, though, that SB3 does. I believe it does. But before I say affirmatively, I want to check on that.

MR. BARRY: Some of the protections are in there. Some of them are not.

REPRESENTATIVE DeLISSIO: Maybe you can get us a list when you have a chance what is in there and what is not.

MR. HOOVER: Sure.

REPRESENTATIVE MARSICO: Any other questions? Seeing none, thank you, Andy, for your time. Thanks for coming out here. We appreciate it. Next testifier is Lieutenant Thomas Repsher, United States Marine Corps, retired, NORML Regional President of Leigh High Valley, and Dr. Laura Edwards, who's a doctor of chiropractic medicine, Berks County Chiropractic Society Secretary &

Treasury. Welcome. You may proceed.

DR. EDWARDS: Thank you. Thank you so much for sitting here and listening to all of this. I was here for this meeting in Harrisburg. You have a lot of patients with a lot of people, and you have a very tough decision ahead of you with a lot of information.

And since I sat through two of these and missed Philadelphia, you've had to listen to the same thing over and over again. You've had a few definitions, the last one, education and what this is and what it does seem to have been lacking. You have it now.

You've heard a lot of testimony today about all the people this helps, the patents that are present from the federal government. I don't think we need to argue anymore about who it helps and who it doesn't. There's a lot of concerns.

Andy Hoover, thank you so much for that wonderful testimony. We've had so much information given to us. I've learned so much just in the last year.

Now, I am a pain -- I have people coming to me 40 to 50 a day in pain, different people every day. I see my patients anywhere from once a month to three times a week, depending on how much pain they're in, depending on their dysfunction, their disability. I see it all.

I don't prescribe medications. All my patients

come already prescribed. I am sometimes someone's 31st doctor. I've had patients come with 25 different medications. They come into my office looking for an alternative. They don't like the side effects. They don't like what their meds do to them. They don't like how it takes them away from their family mentally. Or like Flexeril, Remeron, some of those, they knock them out. They make them woozy.

They come to me looking for supplements, looking for alternative health care. I do my best to give them what I can with my abilities and what is available.

So many people are not happy with their health care, and this is an opportunity to change that. Many people have brought up a lot of different things. One of them is physicians deciding what patients would benefit from this. I like the idea if it's a recommendation. Let me petition the state for my patients and say, "I think this person needs this for this reason."

It was brought up maybe by Chairman Baker or someone about podiatrists, why would you let someone like that recommend this? There's a condition called "RSD." It is excruciating pain after an injury. Their feet start to rot. They're going to go to a podiatrist. They're in excruciating pain. They're committing suicide, they're in so much pain. This is something that helps even them, and

they go to the podiatrist with the pain.

How many doctors do I need to send my patient through in order to get this recommendation? There are bad doctors everywhere that are going to abuse this, that are going to have a $40 sign for a doctor visit to sell pot. I'm not in favor of that. You're not in favor of that.

Doctor/patient relationship, the state writes my laws. Just like all the attorneys in the room, the state licenses me, requires me to have certain ethical regulations. And if at any time I were to abuse those, I would be punished for those; and so should anyone else who misuses your rules, regulations, recommendations. To me, that seems pretty cut and dry.

Same with law enforcement. We even heard the district attorneys in Harrisburg that said, "Please make the laws cut and dry. Make them black and white."

The police force that I take care of, I take care of a number of communities' police forces, they said, "Fine, no problem. But can you please make the laws cut and dry?" "You have a card. You can have this amount. If you're outside that, you're penalized." Lieutenant Repsher is an expert on this.

LIEUTENANT REPSHER: Yes. I was going to joke, it's pronounced Repsher, but I've been called a lot

worse so it's okay. Representative Cox, I personally want to thank you, first of all, with your one opening statement earlier today, how many people come here with shrapnel in their spleen or in their spine?

I currently have four lodged in my lung and about 20 other places in my body that you can't see. I can feel it every day. They give me a list of morphine, Vicodin, T-3s, Somas. I could go on.

The side effects after the first one had me back in the hospital because my kidney shut down. That wasn't on the side effect box. Just stopped. My kidneys stopped.

Luckily, I got them back again. At this point, there is no side effects that has yet to be discovered on it. There is no your kidneys are going to shut down. Your body is not going to get poisoned by it.

Now, is my dose the same as a two-year-old? Absolutely not, absolutely not. That now puts responsibility on me that if my medicine is in my hands, my two-year-old cannot get it. It's so different than my Vicodin that is legal, or the morphine. We're talking about a flower here. If morphine is legal, then I should be able to grow my opium or my poppy flower outside. But you guys don't. You regulate that law.

Like Dr. Edward said, if I have a card and I'm

selling it to you, I lose my card, I lose my rights as a patient, cut and dry, because I'm illegally selling my medication. That's how you guys have to run this place, just like a casino. You don't walk in with $100 and expect that you can rob the table for $1,000 and get it back out the door. It's not going to happen.

I can't walk into a dispensary and get an ounce of medicine and walk back out and sell the ounce without being caught. Then I loose everything. It's as simple as that.

The government back in 1978 with the first patient, Robert Randell, when they gave him a canister of rolled up 220 joints from the federal government who said, "Don't tell people where you got it from," that was interesting.

By 1998, there were 34 people on that list. Eventually, in 2001, George W. Bush said, "no more people can apply for federal. We can't allow it to be known that we are dispensing medical marijuana to citizens." So they cut the Compassionate Care Law out of federal court.

Now there's only four people to this day that still get medical marijuana, medical cannabis from our federal government. Correct. I think it was Nightingale that brought up the patent. I actually have a copy of the patent here.

The patent is cut and dry. There's two things that they found medically come from this plant. The government immediately jumped right on it and patented it, both issues, from that plant. Now, if this holds no medical value, why would our government put their hands on it and lock it down?

Now, the other things we brought up was the control factors. Medicine Man, Mr. Eddie Daley, he had it dead on on control and tracking from seed to sale, just like in pharmaceuticals.

If the Pfizer company makes a drug, they know what is all in it, where it goes. It goes into a log right from production, right to CVS, right to when you sign for it. They know who touched it, how much and where. We can actually do the same thing with this. Complete controlled setting.

Now, I've been in the military career my entire life. When I retired, this -- I noticed not just patients of different ailments, but us warriors, too, that come back with wounds that aren't always physical. There are a lot up here (indicating).

I joked earlier today, this room could use a huge bundle of sativa, laugh everybody up a little bit. That's what it is. Then we also forget there's also an indigo plant that everyone thinks -- you know, you guys

separate the two. There's an indigo and a sativa, one for the narcotic effect, one for bumpsy bubbly effect.

Production, people in here, you're looking around, people are hurt, people are sick. They say medicine -- laughter is the best medicine followed by being active.

If you can grow a strain where all of a sudden now your brothers, your sons, your dads, your uncles, who has been sitting on the couch just rotting away because he can't move, takes a couple -- a gram, maybe a gram, maybe a gram and a half and enjoys the next two, three hours of life with their family because now they can move, it blocks that pain sensory, so you can enjoy life.

Now you give them a job where now every day they can go to work without fear of losing their job. Now they're being productive in society again. Now you have a revenue on top of that. But now you also have someone who was just yesterday sitting on the couch wondering where can my life lead to, nowhere, to all of a sudden feeling happy and good again.

Don't take that away from people. Especially some of us, and I can't speak for everyone, but here I am as a disabled vet who comes back going, wow, I fought for everything, and you're going to give me a box of pills?

Basically you're telling me, "Can we speed this

up so I can stop paying you?" That's how we feel. We smoke a little bit. They look at us and go, "Wow. You can move again. It's a miracle." I don't want to tell them, "No. It's because I just smoked a joint." But, yeah, it is a miracle, per se, on a certain level.

Now, does that have to be controlled and regulated? Absolutely, absolutely. Is the black market going to try to interfere with every one of us? They have been since Day 1. They have been since the days of Jesus, they've been trying to overcome everyone's happiness. This is money, this is health, let's take it away.

This is why we all need to work together and say it's only for patients and it's controlled just like a pharmacy, just like a pharmaceutical plant. From start to finish, it is controlled, and everything is turned in.

If you guys want to come in on Wednesday and say, "I want to see reports of everything," it should just be a click of a button.

Another question was money, what do we do with the money. It's a cash business. You're right. There's a thing called, what is it, the E-dot?

DR. EDWARDS: Bitcoin.

LIEUTENANT REPSHER: Bitcoin.

DR. EDWARDS: Bitcoin is electronic funds. Some people are using it now on their cell phone. You can

go to Starbucks, hold up your phone, they scan it. It's sort of like the reading that I've done, and I'm sure others in the room have done more. It's almost like a stock exchange instantaneously.

So, yes, we had the discussion of what do you do with the cash. If the banks are federally-backed and they're not in favor of this, what do you do?

I've discussed with a few financial advisors, one who was CIA previously, now billion-dollar money marketer and handling funds for billion-dollar clients, his immediate answer was credit unions. They're not federally funded. I haven't researched that. Medicine Man would know that more than me. Colorado is doing it.

Catch anyone who is laundering money. The first thing goes to, well, what about the people that are doing that and that illegally? It's still illegal whether I do it with my paycheck now or someone does it with their marijuana sales. It's still illegal. Prosecute it. Otherwise, let the individuals deal with what they do with their cash.

Does it bring crime? Banks bring crime. Anything. CVSs are being stolen. The pills are being sold out the back door. There's a lot of bad, and there's mostly good.

REPRESENTATIVE MARSICO: Thank you very much

for being here. Any questions from the Members? I just want to thank the Lieutenant for your service to our country.

LIEUTENANT REPSHER: It was my honor, sir.

REPRESENTATIVE MARSICO: Thank you very much. No questions. Once again, thank you for your testimony.

LIEUTENANT REPSHER: I just want to add one more thing. I do want to say, as for personal cultivating and growing, I am strongly advising you guys not to allow that honestly.

The reason being is you're worried about the black market, you're worried about contamination, you're worried about is this going to be pure for the patients.

If you allow people to cultivate, there's your black market. If they can get it from a dispensary because they're a medical patient, why do they need to grow? They don't need to grow it.

It's their own product. My own product or a dispensary's own product is controlled and watched and lab-tested and watched all the way through.

Now, if this batch is bad from what I grew in the backyard and I just want to dump it, I can dump it. Now the person has a reaction to a pesticide, they have a reaction to -- but you can't trace back to what it was.

So personal growing could lead to some

dangerous grows, and I agree to that, at least in the controlled setting. The dangerous roads are only alleyways down, and we, as professionals, can tweak that alleyway so that way everybody is safe in the end and not risking, you know, having outside sources come into play.

REPRESENTATIVE MARSICO: Thank you very much.

DR. EDWARDS: Thank you again for your time.

REPRESENTATIVE BAKER: We have one more testifier, and that is Bertha Madras, Ph.D., Professor, Department of Psychiatry, Harvard Medical School. Can you hear me?

DR. MADRAS: Yes, I can hear you. Can you hear me?

REPRESENTATIVE MARSICO: Yes, we can. So we'll let you proceed with your testimony. Go right ahead.

DR. MADRAS: Wonderful. Thank you very much. I would like to say that in the beginning, in terms of what has been heard so far, we have heard civil liberties arguments, we've heard conspiratorial arguments, and we've heard compassionate arguments, all of which can have values.

These are based on our human values, and these can be manipulated and shaped according to the personal feelings as well as the feelings of organizations.

However, the most important issue here, from my perspective, is the science. And April 17 of this year, Judge Kimberly Mueller of the Eastern District of California heard the case in which the science was debated as to whether or not marijuana should be rescheduled as a Schedule II drug; and she ruled that marijuana should not be scheduled as a Schedule II drug, it should be as a Schedule 1 drug.

I was the sole expert witness presenting the evidence for why marijuana at this point in our history does not achieve the scientific bar for being approved as a medicine.

I have four major reservations for marijuana as medicine, and here are the four reservations: Of the medical diseases in this marijuana bill, there's insufficient evidence that marijuana is effective, consistent with standards of evidence of the legally-prescribed medications.

Number two, marijuana does not fulfill FDA or DEA criteria as a medicine. Number three, the Pennsylvania bill circumvents the FDA, and it has been circumvented before in a number of states. It sets a dangerous precedent for the future safety of our drug supply and for patient protection.

And number four, the consequences of

designating marijuana as a medicine from the perspective of public policy, of public health, are unacceptably high.

Let's examine each of these reasons one at a time, and let us reason together. Of the medical diseases in the marijuana bill, is there sufficient evidence that marijuana is effective?

Let's only go through criteria of what is needed in terms of rigorous research to definitively decide that a drug is effective. There have been in recent times a number of analyses of the biomedical literature, the gold standard.

For cancer, there is currently insufficient evidence to recommend marijuana for the treatment of cancer, for epilepsy and seizures based on a Kaufin (phonetic) review.

Systematic reviews of the literature conclude that there's insufficient clinical data to support or refute the use of cannabinoids for epilepsy and seizures.

For amyotrophic lateral sclerosis, there is insufficient clinical evidence in humans to recommend it. For wasting syndrome, Dronabinol has been FDA-approved for anorexia associated with weight loss an AIDS. There is no need to introduce a smoke leaf as medication.

For Parkinson's disease, there is insufficient evidence to support the use of marijuana to treat this

disease. For traumatic brain injury and post concussion syndrome, there is no research that directly addresses the key question of the benefits and harms of marijuana for the treatment of post-traumatic stress disorder.

For multiple sclerosis, between 14 and 16 percent of patients with MS report using marijuana. The problem is that cognitive dysfunction, that means brain dysfunction, is present in 40 to 60 percent of individuals with MS before marijuana administration; and there's evidence that marijuana use compromises their impaired brain function in this neurologically-vulnerable population for both multiple sclerosis and other neurological disorders.

The American Academy of Neurology does not advocate the use of marijuana for the treatment of neurological disorders because of insufficient evidence regarding treatment efficacy.

For spinocerebellar ataxia, the American Academy of Neurology does not advocate the use of marijuana because of insufficient evidence. For post-traumatic stress disorder, we are already said, given the lack of randomized controlled trials studying marijuana as a treatment for PTSD, there's insufficient scientific evidence for its uses at this time.

For severe fibromyalgia, there is insufficient

evidence at the present time. There are preliminary reports that marijuana may have analgesic effects but insufficient research on dosing and side effects profiles which precludes recommending marijuana for the management of severe chronic pain.

For HIV/AIDS, there is variability and short-term outcomes and insufficient long-term data addressing the safety and efficacy in marijuana when used to manage symptoms.

For glaucoma, the limited documented toxicity of marijuana have resulted in the American Glaucoma Society, the Canadian Ophthalmological Society, the American Academy of Ophthalmology, complimentary task force to determine that there's insufficient evidence to indicate that marijuana is safer and so on and so forth.

Marijuana does not fulfill FDA or DEA criteria as a medicine. The drug has high potential for abuse. The drug has no currently accepted medical use, and there's a lack of accepted safety standards for the use of the drug, even under medical supervision.

The drug's chemistry is unknown and certainly not reproducible. Safety research and standards for marijuana are inadequate. Death is not the only safety outcome. Compromised brain function, inability to drive safely, inability to learn at school, inability to

function in a job, these are other issues that are critical.

For marijuana, the effective studies are inadequate, insufficient, and unlikely to be acceptable for a complex plant. Marijuana is not accepted by qualified experts. I can list all of the American Medical Associations that do not accept marijuana as a medicine.

The scientific evidence is insufficient on marijuana as a therapeutic safety -- for safety and efficacy, and the problem is that on the one hand, the advocates say there's 20,000 papers that show it's effective. On the other hand, they say that because of the scheduling problem, we don't have sufficient data.

There is sufficient data to show that in drug-naive patients, marijuana's psychoactive effects, intoxicating effects, are, in fact, adverse enough for them to drop out of clinical studies. And there is a lack of accepted safety for the use of the drug under medical supervision.

There's brain changes in structure, function, circuitry, biochemistry. There's an association with psychosis correlated with marijuana strength and use, earlier age of onset of schizophrenia, reduced IQ with early initiation and continued abuse, compromised cognitive ability, executive function after the acute

effects wane.

Marijuana addiction is significant with frequent users, and it is an increased risk, especially for young people who have six times the higher prevalence of addiction compared to adults. There's an amotivational syndrome that has been documented in recent studies, increased traffic accidents, increased school dropouts.

So in conclusion, what I would say is that the consequences of designating marijuana as a medicine are unacceptably high because the passage of this bill would further re-rule public perception that marijuana is harmful, especially among youth.

And that is why so many people in the states are voting, because they think it is an acceptable medicine without knowing the biomedical literature that says there is insufficient evidence for it; youth drug use in states that have approved medical marijuana are our highest in the nation because they have a reduced perception of harm and they have increased access to the drug.

The vast majority of medical marijuana users in states with marijuana bills are young men who report chronic pain, not these life-threatening diseases.

And No. 13 of this bill says, "Any other condition." For these four reasons, medical indications

in the bill are not supported by research. Marijuana does not meet the FDA criteria for medicine.

Circumventing the FDA places our entire drug-approval process in jeopardy, and the public perception that marijuana is a medicine is increasing use, especially with our most vulnerable populations.

So I would conclude by saying contrary to compassion, which has been presented so forcefully by the representative from NORML, contrary to civil liberties, which has been presented by the ACLU, contrary to conspiratorial theories that Big Pharma wants their hand in it or that the U.S. Government has a patent on isolated and synthetic cannabinoids, none of these issues are really the primary issue why people push back on these kinds of bills.

The primary reason is that it is far more compassionate to administer medicines that have a scientific basis. It is far more compassionate to administer medicines to people with serious medical conditions when we have long-term safety and effectiveness outcomes than what we currently have with marijuana. And based on accumulating evidence, I don't think we will ever have good safety outcomes. Thank you.

REPRESENTATIVE MARSICO: Thank you. Can you hear me?

DR. MADRAS: I can hear you.

REPRESENTATIVE MARSICO: Thank you very much for your testimony and your patience as well. Are there any questions from the Members?

(No response.)

REPRESENTATIVE MARSICO: Seeing no questions, thanks again. We appreciate your time.

DR. MADRAS: Thank you.

REPRESENTATIVE MARSICO: We have a wealth of written testimony submitted for today's hearing and you can find those that submitted the testimony on the agenda. They are David G. Evans, Esquire, Kevin Sabet, Cathy Jolley, Troy F. Kaplan, Esquire, Charles Larsen, Pennsylvania Chapters of the National MS Society, Robert Parise, Ph.D., Mark A. Scialdone, Ph.D., Dr. Thomas Lynn Whitten, Lori Ann Bagley, Christy Billett, Theodore Caputi, Donna Carmichael, J.C. Ciesielski, Nathan Hall, Carol L. Hunter, Douglas Jeeves, Joseph Kringer, Junior, Denise Liggett, Dave Lovett, Allan Luft, Darren L. Mershimer, Julie Michaels, Joseph Mirt, Graham Peters, Luke Shultz, Carlo A. Valeri, Angel Winslow, Royce Wong, and Karla Wood.

This concludes the third of hearings we've had on the legalization of cannabis, and we have, I guess, almost 15 and a half hours of testimony in those three

hearings that we've had, hundreds of pages of testimony.

And as you know, as Legislators, we wanted to hear from the public, and we did. Probably the amount of work that has to be done yet is just beginning to really evaluate the testimony and to go through the suggestions accepted and submitted through these hearings.

So I just want to thank the Members that have been to the hearings. I want to thank the staff, thank our video staff. You guys are getting this stuff down, aren't you? I want to thank our stenographer. I want to thank Allegheny County and a very special thanks to our security. We appreciate your being here today. So also thanks to all the testifiers and the public. This hearing is now adjourned.

(Whereupon, the above-entitled matter was concluded at 3:20 p.m., this date.)

C E R T I F I C A T E

I hereby certify that the proceedings and evidence are contained fully and accurately in the stenographic notes taken by me on the hearing of the within cause and that this is a correct transcript of the same.

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Amanda M. Williamson, Notary Public