MEDICINAL MARIJUANA PUBLIC MEETING

IOWA CITY, IOWA

TRANSCRIPT OF PROCEEDINGS

OCTOBER 7, 2009

Reported by: SueAnn Jones, CSR, RPR

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PUBLIC MEETING

October 7, 2009, 12:15 p.m.

Bowen Science Building, Beisner Auditorium

Iowa City, Iowa

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PROCEEDINGS

LLOYD JESSEN: Welcome to the third public hearing on medical marijuana. This hearing is being held by the Iowa Board of Pharmacy pursuant to Iowa Code Section 124.201(1).

I am Lloyd Jessen, the executive director of the board. With me today is one board member, Peggy Whitworth, who is a public member from Cedar Rapids, and Peggy is sitting right over there. Also present today are board staff Debbie Jorgenson, who's in the front row, and Becky Hall, who is out in the hallway.

SueAnn Jones of Johnson Reporting Services is serving as the certified reporter for this hearing.

The purpose of this hearing is to receive information from the public. A transcript of all comments that are received at today's hearing will be reviewed by the six board members who are not present today.

Iowa law imposes upon the board the duty to periodically recommend to the legislature changes in controlled substance schedules. The board views this statutory responsibility with great seriousness, both because of the specificity

of Iowa Code Chapter 124 and because marijuana use and the use of drugs in general is a sensitive medical, social, and political issue.

Any board recommendation for changes to the controlled substance schedules will be preceded by a thoughtful review and analysis of the most helpful and current scientific information available to the board.

In making a recommendation to the legislature regarding marijuana, the board will consider the following 12 factors: No. 1, marijuana's actual or relative potential for abuse. No. 2, marijuana's pharmacological effect. No. 3, current scientific knowledge regarding marijuana. No. 4, the history and current pattern of abuse of marijuana. No. 5, the scope, duration, and significance of abuse of marijuana. No. 6, the risk to the public health from moving marijuana from Schedule I to a different controlled substance schedule. No. 7, the potential of marijuana to produce psychic or physiological dependence liability. No. 8, whether marijuana is an immediate precursor of a substance or some other controlled substance schedule. No. 9, whether marijuana's potential for abuse or lack thereof is

not properly reflected in its inclusion in Schedule I. No. 10, whether marijuana lacks a high potential for abuse. No. 11, whether marijuana has an accepted medical use in treatment in the United States. And finally, No. 12, whether marijuana does not lack accepted safety for use in treatment under medical supervision.

This hearing will be held according to the following ground rules and will proceed in the following manner: Both proponents and opponents of medical marijuana will be allowed to speak. All speakers must come to the stage and speak into this microphone. Speakers must speak slowly and clearly so the comments can be accurately recorded.

Speakers need to identify themselves on the record. They should at a minimum provide their first name. Full names and addresses would be appreciated but will not be required. If speakers are representing an organization or are speaking on behalf of an organization, they should state that before making their comments.

Speakers who wish to offer exhibits or written materials to the board need to have them properly identified for our record. Testimony that references an exhibit should identify the exhibit

number.

Depending on the number of people who wish to speak at today's hearing, time limits will be imposed. In general, each person will be allowed a minimum of five minutes to speak. If feasible, additional time may be allowed. However, the board wants to ensure that every person who wishes to speak today receives an opportunity to do so.

Speakers will be called according to the order on our sign-up sheet. Some speakers have already reserved time prior to today's hearing, and they will provide their comments as previously scheduled. Some speakers have also requested additional time. All requests for additional time will be allowed as circumstances permit.

The board wishes to remind everyone that this is a hearing, not an opportunity for debate. We are here today to receive comments concerning the medical use of marijuana. As part of this process, I and/or Ms. Whitworth may have questions for the speakers. Please be aware that we are not here to receive comments regarding the legalization of marijuana for nonmedicinal purposes.

Speakers are also reminded to avoid repetitious or irrelevant comments. Speakers should be short and concise. Unruly behavior will not be tolerated. Please hold your applause until each speaker has finished making their comments.

In addition to receiving oral comments at today's hearing, the board welcomes and encourages people to submit written comments. Any comments or other information received at today's hearing will be public information and may be referred to or referenced in reports or recommendations issued by the board to the legislature.

This hearing will be in session until 7 p.m. tonight. We will take about two 15-minute breaks during the afternoon. Our next and our final public hearing on this topic will be held on Wednesday, November 4 in Council Bluffs, Iowa, from 10 a.m. to 7 p.m.

We will now welcome our first speaker who is Senator Joe Bolkcom from Iowa City.

SENATOR JOE BOLKCOM: Good afternoon. My name is Joe Bolkcom. I'm a member of the Iowa Senate. I live here in Iowa City at 728 Second Avenue.

And I'd like to start by thanking the members of the Iowa Pharmacy Board for coming to Iowa City today to take testimony from Iowans about the medical efficacy of marijuana. I would like to thank the Board of Pharmacy for their leadership in bringing this important issue and this sensitive topic to the attention of Iowans.

I'd especially like to thank Board Member Whitworth who's here and the executive director, Mr. Jessen, for their leadership on this issue.

Over the course of the last couple of months, the board has been conducting a series of four public hearings around Iowa to seek input from medical professionals, patients, and the public about their views on this important issue.

I think the work of the board is important for two reasons. You are providing a forum for Iowans to have their voices heard, and at the same time you are educating Iowans about this topic. I share your view on the need to review and evaluate the research evidence on the benefits and risks of marijuana use as a medical treatment. I expect that we will learn much from your work.

This year I introduced Senate

File 293, a bill to allow a person with a debilitating condition and a physician's prescription to legally obtain marijuana for medicinal use.

Since introducing the bill, I have received dozens of e-mails on this topic from people across our state. More than 95 percent of those e-mails and correspondence have been supportive of legalizing the use of marijuana for certain diagnosed medical conditions.

I have frankly been impressed by the intimate and personal medical stories I have heard from people across our state who suffer daily with chronic pain or chronic conditions that substantially reduce their ability to live a normal life free of pain.

This past March, a subcommittee meeting on Senate File 293 was held at the state capitol, and it attracted 35 people to discuss this issue. There were several people that shared personal stories about their trials and tribulations with diseases like multiple sclerosis, fibromyalgia, diabetic neuropathic gastroparalysis, and their experiences with powerful prescription drugs that do not address their pain and suffering.

I have heard from chronically ill people who have been prescribed all the most powerful narcotics available at any pharmacy with little positive effect, drugs like morphine, OxyContin, Percocet, codeine, drugs, by the way, that have powerful side effects.

I have heard from those who would like to use marijuana but are afraid of the legal consequences, and I've heard from people who have illegally obtained the use of marijuana for medical purposes in spite of the law.

I've really gained a new appreciation of the personal and extremely difficult health conditions and stress under which many Iowans live every day.

Your work is timely. Thirteen states have already moved to legalize the medicinal use of marijuana. This last year, fourteen -- fourteen other states across our country, legislation was introduced to do the same. Even last month, the Older Iowa Legislature voted to support legislative action legalizing marijuana for medical purposes.

As you have heard at your first two hearings and as you will hear today, there's much patient interest in your work. I'm hopeful that

after a thorough review of the research and informed input from Iowans that the board will conclude that marijuana does have medical benefits that would improve the quality of life for many, many Iowans suffering with chronic pain and conditions.

Thank you for being here again today, and I look forward to learning more about this topic from those that are here to provide testimony. Thank you.

LLOYD JESSEN: Thank you, Senator. Welcome. Our next scheduled person to speak is Kevin Litten. Is Ron Herman here? Okay. Well, we could take whoever would like to speak at this point.

DEBBIE JORGENSON: Do we have a Speaker No. 1?

LLOYD JESSEN: Anyone here identified as Speaker No. 1?

JOHN STAMLER: Yes. Do you want me to go up there?

LLOYD JESSEN: Yes, please.

JOHN STAMLER: Thank you. I'm Speaker No. 1. Also John Stamler.

LLOYD JESSEN: Can you please state

your name.

JOHN STAMLER: Yeah. My name is John Stamler. I am an ophthalmologist, M.D. and a Ph.D., and I do clinical research in ophthalmology.

I know you're going to hear a lot about other uses for medical marijuana, but I just wanted to put in a few words about the uses -- potential uses of these substances for treatment of eye diseases, particularly glaucoma.

Glaucoma is -- remains a leading cause of blindness in the United States. There are millions of people who are affected with this disease who still go blind even though we have numerous treatments, but none of them are perfect. There are still people who cannot tolerate side effects or are -- or the drugs are not effective.

And we -- glaucoma is a disease caused mostly by a high pressure in the eye. And we do know that THC and related compounds do lower pressure in the eye and both with topical and systemic use.

So these -- these drugs have a lot of potential. However, they're not being researched very much, and that's primarily because -- primarily because people don't see that they'll

ever be available for use.

So without being licensable for use in patients, these potentially very useful drugs will never be investigated and never be studied, and we won't find out if -- if they'll be useful or not.

I know as a researcher myself, I don't want to spend a lot of time in my career researching something that will never have a potential of being used. So that's my first point.

My second point is I think that you can trust physicians to prescribe medicines in an appropriate way. I think if -- if there are safe and effective treatments found using medical marijuana that -- that physicians can be entrusted to prescribe them reasonably and -- and rationally just as we're entrusted with opiates and benzodiazepines and amphetamines and other very -- drugs that have a lot of abuse potential.

So I'd like you to consider this when you're deliberating. Thanks.

LLOYD JESSEN: Thank you. Is Kevin Litten here yet? No. All right. Let's get Speaker No. 2.

CARL OLSEN: My name is Carl Olsen, and I live at 130 East Aurora Avenue in Des Moines.

And I have a CD that I want to introduce into the administrative record, and there's about 200 scientific journal articles on here dealing with the effect of marijuana on the heart in cancer treatment, pain treatment, psychiatric treatment, neuroprotection.

Patients Out of Time was going to present this to you, and they were going to do a summary of what it means, and they haven't done that yet, and they will be doing that, but I want to get this in the record right now and get it in early so -- That's all I have to say.

LLOYD JESSEN: Thank you. Speaker No. 3.

DEBBIE JORGENSON: I don't have one yet.

LLOYD JESSEN: Don't have a No. 3 yet? Okay.

DEBBIE JORGENSON: I don't think so.

LLOYD JESSEN: Is Kevin Litten here? No. Well, then it's 12:30, and we have another person scheduled at 12:50.

DEBBIE JORGENSON: But if they're here, they can go ahead and go.

LLOYD JESSEN: Yeah. That would be

Ron Herman. Is Ron Herman here? No. So until we get another speaker, we'll just be waiting. Anyone in here who would like to speak who hasn't gotten a number?

SCOTT GALENBECK: Back here.

LLOYD JESSEN: Okay. We have a person out front who would give you a number.

DEBBIE JORGENSON: I'll go get it.

LLOYD JESSEN: Oh, okay. All right.

DEBBIE JORGENSON: Whenever you want to, you go ahead and start.

LARRY QUIGLEY: Okay.

DEBBIE JORGENSON: Excuse me. I have a favor to ask. So the court reporter can hear him well, if everyone could just keep their side discussions down for right now, then --

LARRY QUIGLEY: Okay. Is that good?

DEBBIE JORGENSON: Yes.

LARRY QUIGLEY: I've never been to one of these hearings before, and I don't really know a lot of what the issue is about.

DEBBIE JORGENSON: Could you -- Excuse me. I'm sorry. Could you state your name first? Could you state your first name, please?

LARRY QUIGLEY: My name is Larry

Quigley. I'm from Cedar Falls. I've lived in Iowa City for a while.

So I'm pro marijuana for treatment, medical treatment. I would say seven months ago I wouldn't have been, but I have used various kinds of medications to treat lower back pain spasms, muscle tightness, tonic -- catatonic spasms, and on my birthday in April, I was with some people who had marijuana, and I tried it, and not that I hadn't tried it many, many years ago, but I'd never tried it for a specific treatment.

And what brought me to that was I went online and started seeing what other people in other states were doing. Apparently doctors in Iowa can't recommend it. They can talk about it, but marijuana has been pretty effective in treatment of -- with spinal cord injury, which is what I have, for certain kinds of spasms and pain. So I tried it.

The next day I had an appointment with my physiatrist. I went in and showed him that I was able to move my legs around without having that tightness, that spasms, and he said "I can't recommend it." And he said he couldn't recommend Marinol, which is a derivative of marijuana,

because it's -- it's -- I don't know the language that well, but it's -- it's used to treat other kinds of conditions. So he can't prescribe it for this condition.

He's familiar with my history, the kinds of medications I've tried to use, why I can't use oral Baclofen, diazepam, or Valium. It affects my cognitive processes. I don't like that.

For some reason marijuana did not seem to bother me. The side effects of it did not seem to bother me. You know, I was concerned about paranoia, which of course there's paranoia as long as it's illegal. You're going to be paranoid because you can go to prison for using it, so you know, there's a cultural aspect to using it.

Well, I tried it. I showed him, and he just looked dumbfounded, didn't know what to say. And at that same time I was getting treatment from a physical therapist, and I went in, and I didn't tell him about it, and he said "Wow, your legs are really much looser today. I can really get a much greater stretch on them."

And then I told him that I'd been using marijuana. And -- and so then I would go -- when I would go in for treatment, depending on

whether I used it or not used it, he could tell the difference in my legs without me telling him. And sometimes he would ask me, and we would just refer to it as the treatment.

And I asked him, and I asked the physiatrist, to put this in their notes. Whether or not they did that, whether or not they want to do that, whether they would subject me to some legal ramification, I don't know. But what I do know is that it works for me.

I'm not using it right now. I can show you what my legs -- how stiff they are. Won't prove anything, but if you give me some marijuana and I take it right now, I could show you the difference. Okay? But no one is going to do that.

And I'm sure that a lot of people here are going to be skeptical. You're not going to believe what I'm saying, but it's time that -- that Iowa really looked at this seriously.

I've thought about going to other states. I would have to leave my 11-year-old son here. I'm not willing to do that. I'm not willing to use it illegally. So I'm going to suffer. The way I can manage it now is I can spend a long period of time in a horizontal position. That will

help my legs to relax, and then I can get up and move around again.

I have trouble rolling because my spasms tighten up, and I've been 28 years in a wheelchair, 28 years with a spinal cord injury, incomplete break, and up until 2001 or about 2001, I could manage it by myself, no problem.

But now I'm having secondary conditions from -- from long-term effects of spinal cord injury. So this is the treatment that works for me. It doesn't affect me mentally. Side effects are not a problem for me.

Other side effects -- side effects of other drugs are. You know, morphine puts me to sleep. You know, so I think that we really need to look at this seriously, and we need to open our eyes to what we're saying when we say we won't legalize it. We're saying we want people to go out on the street and look for it themselves and treat their own condition and be associated with people who are going to also sell other illicit drugs, heroin, methamphetamine. I mean this is a money-making deal for drug dealers. Okay? Marijuana is a gateway for them to more money.

So I don't know what else to say. Ask

me some questions and I'll answer them.

LLOYD JESSEN: Thank you very much. Our next speaker will be Lisa Jackson.

LISA JACKSON: Hello. My name is Lisa Jackson. I live in Crawfordsville, Iowa. I've had fibromyalgia for seven years. For someone who doesn't know, fibromyalgia is a neurological disorder with multiple chemical imbalances which in part leaves us not being able to treat it with opiates. We don't have any real injuries.

Some of the other issues that add to the fibromyalgia are restless leg syndrome, irritable bowel syndrome, sensitivity to light, sound, touch. There are so many and -- I'm sorry. I'm nervous. There are so many different things that we are affected by, and because of the way the chemicals react to things for us, marijuana is my only option.

In the first year of my new life with fibromyalgia, I lost my job. I had severe depression. I had unbearable pain in my feet and legs to the point I couldn't walk, and if I was, I was crying. In the mornings the pain wakes me, still to this day. I don't need an alarm clock. Sleeping in because I'm tired is not an option

because you can't lay still that long.

Laying on my stomach for more than three minutes at a time, it's hard for you guys to understand but will paralyze me for fifteen to twenty minutes, and I thank God I have a wonderful husband because I can't imagine what I would do without him, the times I've -- he's had to roll me over because I could not move.

My second year I lost my job, and the fatigue and pain took everything, my income, my pride, my respect, ability to function, ability to bathe. I couldn't walk 14 steps upstairs to go to my own bathroom without muscles in my legs burning like I'd ran two miles.

Not counting I felt that way inside. I was exhausted. It got bad enough where I couldn't get out of bed. For four years I laid in bed. Four years is a long time to be stuck in bed, not being able to take care of small children.

My little girl learned to cook for herself at seven because she didn't have a choice. She cooks for me. About two years ago after I'd tried everything -- I'd overdosed on just about every opiate. I overdosed for two weeks straight with not knowing it. What people don't understand,

well, how can you not know? Well, when pain never leaves your body, mentally you think it's not working. The medicine is not working.

Well, it was working, but it's not going to take my pain away. And since it wasn't working well enough to take my pain away, I quit taking it. And two years ago I figured my only option was suicide.

And after thinking about it for a couple weeks, I went to my husband, and I talked to him, and I have been smoking marijuana ever since. And I don't regret it. My family is open-minded about it. My children know about it. And I don't do anything wrong. Nothing wrong.

The medications that I have to take on a daily basis are more lethal to me and my family than marijuana. You can't OD on it. You can't get addicted to it, not physically. And the amount of thousands and thousands and thousands of dollars I gave for the opiates that have done no -- I don't know what damage they've done. I really don't know. I'll find out later, I guess, down the road because a few of these, I still have no option to take. I have to take them.

Fibromyalgia sufferers do have the

highest rate of suicide rates, and with the new bill and compassion centers that we've discussed, we could grow specific strains of marijuana to accommodate the individuals with their specific needs for its medicinal use, whether it be vomiting, headaches, chronic pain.

The centers would also give patients support that they would not get elsewhere in the community. Marijuana will always be available, always. And whether we choose to go out and into, like Larry said, these undesirable situations that we don't want to be put into. I don't want to be associated with cocaine and meth or whatever. I just want some pain relief. I want some relief. I want to live. I want to be allowed to live.

I want to be allowed to be a mother. I want to be allowed to be a wife, and I want to be allowed to be a good person. And smoking marijuana allows me to do that. Is it worth going to jail? For me it is. I can either go back to bed or I can smoke marijuana, and I'm not going back to bed. I don't have any other options.

I'm a good mom. I'm a good wife. I have a great relationship with my children, and I should not be prosecuted for that.

Man has not given me any medication. If you had, I've taken it. I even took methadone. I'm allergic. I took it for two weeks even though I was allergic, hoping for the relief.

Until you've laid in bed and had so much pain running through your body as if it were running through your bloodstream, you have no idea, and I can't imagine, Larry, what you go through. Your pain is different. It's all different.

But until you've been paralyzed and lost your life, you have no idea. And I will continue to smoke it, and I don't have a problem with it. And the 12 categories that the board is looking for has been proven for years. Thank you.

LLOYD JESSEN: Thank you, Lisa. Ron Herman. Is Ron Herman here?

RON HERMAN: Yes.

LLOYD JESSEN: Okay.

RON HERMAN: I'm the director of the Iowa Drug Information Network here at the University of Iowa College of Pharmacy, and one of the things that one of my colleagues asked me to do was to look into the evidence as it relates to medical marijuana and its use, and so myself and graduates -- senior pharmacy students, myself, as a

project, we began to investigate this, and I have turned into the board a summary of the scientific evidence for medical marijuana use.

We identified 91 studies that have been done that have looked at it in various situations. It's all summarized. I don't have time to go through 91 studies. I don't intend to do that.

What I want to do is point out is that we have identified in the tables for you tables that the first table deals with -- with marijuana in the context as an antiemetic. Table 2 looks at it in the context of using it as an appetite stimulant; Table 3 for analgesia. Table 4 goes on to look at it in the context of multiple sclerosis. Table 5 looks at it in the context of epilepsy; Table 6 as it relates to glaucoma; Table 7 as it relates to Parkinson's disease; and Table 8 as -- to Tourette's Syndrome.

Each of those tables are subdivided into the various types of ways in which the cannabis product can be administered. It can be smoked as -- as marijuana. It can be taken as -- as an extract, as THC or cannabis extract. There are various derivatives, cannabinol, cannabindiol,

and then various other cannabinoids as well as there's another product called Nabilone and then another product that's listed in there as well.

And so you have the opportunity to go through, and I have identified those studies. The key features of each of those studies, all that has been included in those 91 studies are studies that are either randomized controlled trials or observational studies. We did not bother to include any of the case reports. There literally would be thousands of case reports. We didn't use any of the descriptive reports. We just identified studies that provide evidence one way or the other.

The very last column on the right in the table are some comments either made by -- by the authors of each study, summarizing some of the key points that they took away from that study, and occasionally it is our commentary associated with it.

Bottom line, there is evidence for benefit in many of these uses. Quite often from smoking marijuana there is very little benefit in relationship to the potential adverse events. When you look at the various extracts and certainly when you develop the synthetic products, they're able to

limit some of the adverse events that are associated, and you tend to see much greater effect.

A preponderance of the studies compared the particular form of marijuana to placebo, to either a placebo cigarette or a placebo other dosage form, and in a number of cases, it is better than placebo, but most of the studies didn't go the next step, which is what most medical people want to know is, how does it compare with other accepted treatments?

And so there are not a lot of studies where they have done a comparison between either the marijuana itself or the other agent itself. You'll see more of those in the antiemetic group. There's about 30 studies within that group. You'll see more of the comparisons between the different drugs and that, so you will see some of the comparisons there, but you won't see that for a lot of them.

Some cases, there is evidence that suggests that it may be beneficial. Sometimes it shows that it's not beneficial. There's not a hard-and-fast rule that you can say across the board. You have to look at each particular

situation.

In the first two pages there, we just gave a little bit of the history of marijuana and its use. It's been around since the year 4000 is the first documented use in China. In 2700 BC, they were using it a lot. Used a lot here in the U.S. until it was banned in the 1800s, and then there has been a resurgence since then.

Bottom line, you look at glaucoma, it will reduce intraocular pressure but at the expense of raising blood pressure, probably to the detriment of the individual. So you can't say yes, it works. Well, it works, but you have to look at it in the context of which it's working and the potential consequences, the adverse effects that are associated with it.

So that's -- that's my contribution to the board. You -- as you make a decision, you'll need to weigh the evidence, and hopefully this will help you, this evidence table that I've provided you will help you to make some -- some decisions based on that.

LLOYD JESSEN: Thank you, Dr. Herman. I think we might have a few questions for you. First of all, I want to thank you for putting this

together. This will be very helpful to us as we do our review.

Can you also tell us what your educational background is? I know you've got a Ph.D., but can you tell us what your degrees are?

RON HERMAN: Bachelor of science in pharmacy here in '76, master's in hospital clinical pharmacy, and then a Ph.D. in pharmacokinetics from here so --

LLOYD JESSEN: Great. Thank you. Do you have an opinion as to what the best route of administration is for patients who use medicinal cannabis?

RON HERMAN: Well, the vast majority, as I went through and looked at the studies, when it's inhaled, whether it's -- it's through the products that are actually put into inhalers or whether it's smoked, there tends to be more adverse effects, especially if it's not a purified product.

The little handout there states there are 60 -- there are 400 known chemicals isolated in the cannabis plant, and 60 of those are grouped under the cannabinoids. So you know, there are a lot of different alkaloids in there. Some of them are producing your beneficial effects; some of them

are producing your adverse effects.

So if you're using one of those products that's the THC/CBD combination for inhalation, again, you're running the chance of having more adverse effects when you're using that. The purified Nabilone product, the one that is produced by the FDA and on the market, that one tends to have fewer side effects, at least of the psychotropic variety of side effects.

LLOYD JESSEN: Another question I've got is if Iowa were to approve cannabis for medical purposes, do you see a role for pharmacies and pharmacists in the dispensing of it?

RON HERMAN: I would -- I would say just with any other -- as any other medicine is distributed, I would see it appropriate that whatever schedule it's placed in and be processed in that way just as the pharmacy would process anything.

I don't know that there needs to be a special new category created, but I think there's appropriate -- now, there are a number of countries that do have a second tier of drugs that -- that are dispensed only by pharmacists, but I don't think that this is something that would necessarily

fit in that category.

LLOYD JESSEN: Oh, we have our assistant attorney general with us today, Scott Galenbeck, and he's got a question.

RON HERMAN: I do have a couple extra. Do you need more? Wasn't sure how many.

BOARD MEMBER WHITWORTH: Appreciate it. Thank you.

SCOTT GALENBECK: If I understand your testimony, there is more than one kind of marijuana that we're talking about or marijuana products, so would there -- if there were medical marijuana available, would it have to be five different products useful in five -- for five different disease states, or what's your response to that?

RON HERMAN: Well, I would think that over the course of time at least that the best way to approach that is to identify the specific substance that targets the effect that you want.

If you want to relieve -- you want analgesic relief, then there's certain receptors you want to target, so you're going to try and focus and give the drug that's most specific that binds the most to that target receptor and -- and has less of the other substances that will abind to

the sites in the body that are going to produce the various adverse events.

So again, I would think ideally you would want to continue to pursue the research and identify out of those -- those 60 different cannabinoids, which are the ones that are responsible for relieving -- you know, providing analgesia. Which ones are responsible for stopping the emesis, the vomiting that you see so often in cancer, chemotherapy. And this can be quite effective for that, and some of the derivatives that they're developing are focusing specifically on that.

So ideally, I would see that as -- as the way to go. Yeah. I have some biases, but I don't want to introduce those. I want to try to stay on the facts. Yes.

CARL OLSEN: Do you see a cost involved in developing those drugs in a time span and a sponsor or somebody to push it through to get those things created and approved and on the market, and what would they end up costing when they actually do make the market?

And the reason I'm asking that is because people that grow marijuana have very little

expense, and they don't have to wait for a pharmaceutical company to get interested in it, so that's my --

RON HERMAN: Yeah. You know, there definitely will be costs associated with all that. You know, a lot of that's going on. If you go through those 91 studies, and in that table I listed where all of those studies were done, and over 50 percent of those 91 studies were done outside the United States. So Germany, Brazil, Great Britain, a lot of places are looking at this.

A lot of companies have these chemicals in process and developed, you know, in the development stages, so some of them are not very far away, I'm guessing.

CARL OLSEN: Is that research going on outside the United States because the United States makes it too difficult to do that research?

RON HERMAN: Probably not, although it might be a factor. There's a lot of research -- a lot of our drugs that make it on the market sometimes hit the market in Europe before they do here, just because of the process, and there's -- there's -- there are definite reasons that the U.S. has procedures, you know, safeguards in the drug

development process.

There have been a number of agents that have been fast-tracked and have resulted in very dangerous situations to people in recent years, and so you know, the U.S. takes a very strict control of that process trying to avoid potential dangerous products making it on the market.

CARL OLSEN: Do you think people that jump the gun and use the plant should be put in prison?

RON HERMAN: That's something I'm -- I'm not going to even get into that moral issue.

CARL OLSEN: That's okay. That's okay. Just rhetorical question.

JEFF ELGIN: What is the LD50 factor for cannabis?

RON HERMAN: I cannot tell you that off the top of my head. I would have to look that up. I'm sure it's -- it's --

JEFF ELGIN: It's off the chart --

RON HERMAN: -- published.

JEFF ELGIN: -- to save you some time in the direction of safety.

RON HERMAN: Yeah. As far as

physiologically causing damage to the --

JEFF ELGIN: The body.

RON HERMAN: -- the person, the individual or the animal?

JEFF ELGIN: Right, exactly.

RON HERMAN: In some cases the animal is where that's determined.

JEFF ELGIN: Thank you.

SCOTT GALENBECK: Dr. Herman, I have one more question that I didn't get to ask you before.

RON HERMAN: Uh-huh.

SCOTT GALENBECK: Now, one of the things I'm -- I think I'm going to take away from your comments today is that somebody who -- for example, we had a speaker earlier who was using marijuana for her fibromyalgia.

What you're -- is it fair to say that your testimony is that she may be achieving some success in treating her disease state with the marijuana that she is using, but there may be a consequence to that that she doesn't understand or isn't being measured?

RON HERMAN: Yeah, exactly.

SCOTT GALENBECK: So there may be

successful treatment on one hand, but there may be a downside that she's not aware of.

RON HERMAN: Yeah, and -- and again, if you're smoking it and it's in a public place, other people are being exposed to -- to that as well, at least -- at least the tars and the nicotines that are being produced. And so yeah. There are definitely other consequences that -- with it.

But if you go through that analgesia table, there are some of them that shows that it is quite effective in certain types of analgesia when it's compared to placebo. When they compare it to some of the other analgesic agents, sometimes it's no better than codeine. And some of the side effects are a little bit, you know, higher relative to codeine.

But you know, again, it's -- every study is a little bit different and looks at it slightly different, but you know, the board will just have to carefully weigh all that evidence. They'll have to look at all those studies.

SCOTT GALENBECK: And then one last question. Dr. Stamler suggested that additional research was needed, and the other thing I would --

I think I would take away -- correct me if I am wrong -- take away from your remarks is that additional research relating to marijuana may identify the correct cannabinoids --

RON HERMAN: Yeah, cannabinoids.

SCOTT GALENBECK: -- to treat certain disease states.

RON HERMAN: Yeah.

SCOTT GALENBECK: Without negative --

RON HERMAN: Without having all of the adverse consequences that you get from -- from using the, you know, product with all 60 cannabinoids and the other steroids and sterols. There are other steroids in -- in the cannabis plant as well, and you are being exposed to those in addition to --

SCOTT GALENBECK: Thank you very much.

RON HERMAN: Yes.

LARRY QUIGLEY: You talked about trying to synthesize different drugs from marijuana.

RON HERMAN: Uh-huh.

LARRY QUIGLEY: The stuff that I've been reading, I know you don't like testimony because you believe they're not facts, but I'd like