

My name is Katherine MacLean and I am a mother, Vermont resident, school teacher, and psychedelic scientist. I am writing in strong support of S.114, a bill to remove criminal penalties connected to the possession of psilocybin, and to establish a scientific advisory working group to learn how psilocybin can be made available as a medicine to Vermont citizens. I was able to give live testimony in the Senate committee hearing on Thursday, February 29, 2024, and I have transcribed those comments below. Following the transcript of my spoken testimony, I have also include the written testimony I provided last year when a similar bill was being considered by the Senate Judiciary Committee.

Thank you so much for your dedication to improving the health and welfare of Vermonters.

Sincerely,

Katherine MacLean, PhD

Transcription of Testimony from February 29, 2024

Hi everyone. I'm tuning in from southern Vermont in Whitingham where I'm actually a schoolteacher right now. I've worn many hats in my life and I've been living and breathing the reality of the impact of these compounds in people's lives since about 2009 when I started work at Johns Hopkins School of Medicine under Roland Griffiths, who was a real giant in the field. He passed away last year of colon cancer and has done a huge amount of advocacy and research to restart this very important work and so it was my honor to work with him in the early days.

Thank you so much for considering this. Even though there is a lot of interest, research, grants, investments, and changes in the law, it's still a very controversial topic. I remember when I started this research in 2009, I couldn't even talk about it with most of my friends and family and the Department of Psychiatry at Johns Hopkins was very opposed to the research. So it's amazing, actually, to see the change that has happened in such a short period of time. And what I can say is that the people who are doing this research are passionate, but also very concerned about safety and education.

When I began my research at Hopkins, I was a postdoctoral research fellow, and then I joined faculty, so for a very brief period of time, I was one of the only women in the world who was a faculty member exclusively studying psychedelic compounds. Sadly, my sister died of breast cancer shortly into my tenure at Hopkins, which prompted another period of my life, but that's basically the only reason I'm a former researcher and not a current one.

At the time, we were working with cancer patients who had anxiety and depression, people interested in quitting tobacco smoking, and actually a lot of

healthy people. So we worked with young people, people in middle age, retired folks. We worked with meditators, people who had never taken a substance in their life and were 80 years old and were coming to us to be part of science. I personally have guided over a hundred sessions with medium and high-dose psilocybin in the synthetic form, and I've worked with hundreds, if not thousands, of people all over the world teaching about how to increase safety and education around what happens before and after a psychedelic experience. And what I can say is certainly what happens before and after is at least as important, if not more important, than what happens during [the experience].

My perspective kind of comes from two hands. The first hand is the medical context, which is where I got my training. I can say ninety percent of the time that context is the safest and most effective way for someone to have this kind of experience. It's not risk proof. It's not without its consequences, but in most of the ways that people are concerned about safety, I would say we addressed that to the highest degree we could at Hopkins.

Now, [on the other hand], people are using psilocybin, right now people are growing their own mushrooms. People of all ages are using this medicine all over the country. There are risks and benefits to that, but what I can say from meeting these people over the course of my career is that almost all of them are using it for health reasons and for well-being and spiritual betterment, not for recreation or entertainment. Of course, that happens, but I would say the large majority are interested in health and well-being, so the fact that this is being considered by this committee is very appropriate.

I've met people who were suicidal because of chronic headaches that would not remit. I've met people who had tried every other depression treatment, every kind of therapy and were at the end of their rope. I've met people who were plagued by distress at the end of their life. And in all of these cases, in a way that we still don't know scientifically how it happens, psilocybin seems to be powerfully transformative for these kinds of situations where someone has tried everything and is still very deeply suffering. And when people are using a medicine on their own for that kind of suffering, it doesn't matter if it's legal or illegal. They are going to make this decision anyway, so what I would say is that we [should] increase access to the medical context for sure, but also the decriminalization of psilocybin, I think, is actually imperative because right now people are [already] making this choice. When something is criminalized, they're less likely to talk to their doctor about it, they're less likely to seek medical assistance if there's an emergency, and they're less likely to know the full scope of what they're doing. And so – there's a lot of research that I – as a mother of two young children and a full-time school teacher, I didn't have time to prepare a full thesis on this - but there's a lot of research showing that a model of decriminalization actually increases safety around drug use for pretty much every drug out there. It's not perfect; we are never going to get to a perfect state of safety, but it helps people feel less shame, fear, and embarrassment about talking to their doctor, getting

education, maybe even talking to their family about it. I certainly know people at the end of their life who were nervous to bring this up with their family. And so I would love to see a compassionate approach to this that [accepts] the reality we're facing, which is people hear the news, they read the research papers as reported by the press, and they take matters into their own hands, because we're in a mental health crisis and we're in a crisis of pain as well.

So, I'm strongly in support of both aspects of this bill. I would love to see more research. I would love to see greater dive into what the therapeutic potential is of psilocybin, and at the same time, I think that the reality is that a lot of people in Vermont could benefit from this [as soon as possible]. Like I said, it may not be perfect if we don't have the medical context, but I think it's a great start to remove criminal penalties.

I work with high school children. As we all know, they do what they want, and I would love to be able to educate teenagers about this kind of medicine, so that when they are adults they can make really good choices. It might actually reduce alcohol use. It might reduce other dangerous drug use because we've seen in the research that psilocybin actually does interrupt addiction.

The final thing that I'll say is on a personal note. I'm a mother of two young children. When my sister died in 2013, it was like falling into an abyss. I sought therapy. I sought treatment from medical doctors. But ultimately, I sought treatment from the medicine that I had seen help so many of the folks that I worked with at Hopkins. And without those experiences with psilocybin, I'm not sure that I would be alive today and I'm not sure what kind of mom I would be, what kind of functional teacher I would be. So it's a very personal topic for me and I know that I've always had a fear of what would happen if something criminal came out of my own desire to ease my suffering. It's a concern I live with every day and I know that other parents and caregivers think about this. You know, "What would happen if I have to treat my headaches, but someone found out that I was using an illegal drug?" And I would love to remove that fear and concern for people who are just trying to feel better.

The final thing that I would say about the medical context... I've had visions of what an amazing psychedelic research and treatment center could look like. It's possible that we could create that here in Vermont. It would certainly take a lot of funding. And right now the barrier to access for most medicine is expense; it's cost. In Colorado and Oregon, we've seen that psilocybin service centers that are being created are inaccessible to most of the population. Sessions are costing 5, 10, 15, \$20,000 a pop, and even [if the treatment is covered by] insurance, we know that insurance is inaccessible to a lot of folks. So I would love to really think about that expense side before we prematurely decide that the medical context is always the best choice.

Final final point – I know we only have two minutes left – is that I've been working a lot with people who actually have been harmed by psychedelic practitioners and my enthusiasm [for psilocybin treatment] is only slightly dimmed by these examples. But with these women who have been harmed, either sexually or emotionally or financially by unscrupulous practitioners – [the people who harmed them] had licenses. They were medical doctors. They were [licensed] therapists. They had review boards. They should have been following the ethics of their profession, but they weren't. And the women were afraid to come forward because of the criminal nature of the drugs that were used. And so again, I would love to see [the criminal] penalties removed because I think it will actually reduce the risks even within the medical model, [such as] folks being harmed by bad actors.

I think that's it. I really appreciate this opportunity and I'm so honored.

Written Testimony from May 4, 2023

My name is Katherine MacLean and I am a mother, Vermont resident, and psychedelic scientist. I received my bachelor's degree in Psychology from Dartmouth College in 2003, and then my PhD in Psychology from University of California, Davis in 2009. From 2009 to 2013, I had the distinct honor to work alongside Dr. Roland Griffiths and his world-class team of psychedelic researchers and clinicians at the Johns Hopkins University School of Medicine. I learned from the best and received government funding as well as philanthropic grants to conduct cutting-edge research with psilocybin, which is the primary psychoactive chemical found in "magic mushrooms". While at Hopkins, I observed time and time again that psilocybin is capable of producing deeply meaningful and positive psychological changes, as well as a wide range of health benefits that persist for many months after the psilocybin experience ends.

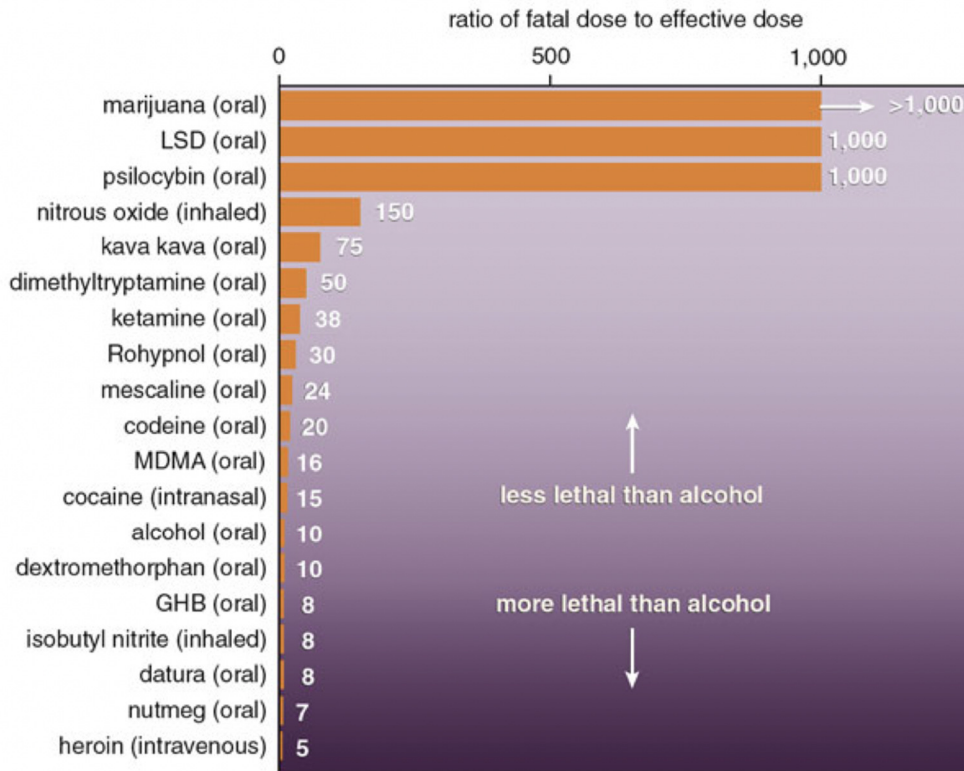
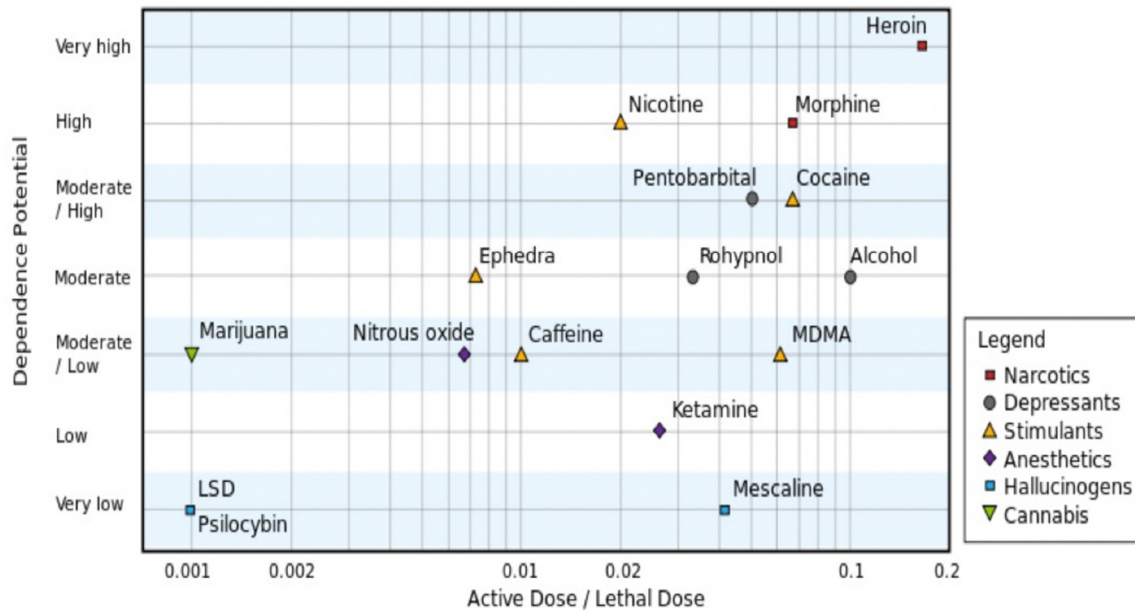
At Hopkins, I worked with people of all ages, backgrounds, and vocations. Our team administered psilocybin to people who wanted to quit smoking cigarettes and people facing a terminal cancer diagnosis. In recent years, the Hopkins research center has expanded to studying many clinical treatment outcomes, including depression, various types of substance dependence, dementia, and eating disorders. I consider our research participants to be some of the luckiest people on Earth, to receive such high-quality, safe, and effective experiences with a chemical that has been deemed illegal and unsafe for the general public.

Of course, this "Hopkins psilocybin experience" remains out of reach for the large majority of US citizens, including Vermont residents. Each research study costs over a million dollars to run, including drug manufacturing and oversight, staff, and therapist compensation. Of course, we were lucky at Hopkins, because we didn't have to pay to rent the session room. An estimated cost I have seen quoted by major psychedelic drug development companies is around \$20,000 for a single round of treatment, which usually includes preparatory therapy, 2

psilocybin sessions, and post-session therapy. As we all know, the American healthcare system is struggling to meet even the basic needs of most Americans. Psychedelic medicine will be no different: it will be expensive, hard to access, and likely not covered by most people's insurance. Even if covered by insurance, insurance itself remains too expensive for most families to afford. I am a school teacher with great benefits, and my family's healthcare costs including insurance premiums are over \$15,000 per year.

Thankfully, psilocybin grows naturally, in the form of mushrooms. As many Vermonters can attest, the process of growing your own mushrooms is simple, safe and effective. Psilocybin itself is one of the safest chemicals known to science, safer than any recreational drug you can think of, including alcohol and caffeine (see graphs below). It is nearly impossible to overdose on psilocybin, and notable physiological side effects are mild, including temporary increases in blood pressure and heart rate, and sometimes a mild to moderate headache the day after. When a person ingests whole, dried mushrooms, the additional physical side effects include a bit of a stomachache and nausea during the first half hour to hour, due to the gut breaking down the physical mushroom material.

Active/Lethal Dose Ratio and Dependence Potential of Psychoactive Drugs



Gable, R. S. (2006). The toxicity of recreational drugs. *American Scientist* 94: 206-208.

Of course, I do not want to downplay the very serious psychological challenges of psilocybin. As we found at Hopkins, psilocybin experiences can be harrowing. The good

news is that even the most challenging experience can be managed well with companionship – having a safe, sober person with you to hold your hand and remind you that everything is ok – and other forms of emotional support, like music. I strongly believe that these skills are teachable and that we can educate and empower Vermont residents to take care of themselves and others through these experiences. As with birth midwives and death doulas, chaplains and home nursing care, and even traveling nutrition experts, I believe it is possible to create the structures of professional and volunteer support to enable many Vermonters to safely have psilocybin mushroom experiences in their own homes. When we remove the criminal penalties and prohibitions around this kind of home experience, we will make Vermont an even safer, happier and healthier place to live than it already is. We can be a model and a beacon for other states, demonstrating that there is a safe alternative to a purely medical model that, while effective, is expensive and hard to access.

When I first moved to Vermont in my early 20s, I could never have imagined a day when we would be seriously debating the merits and safety of psilocybin mushrooms for legal consumption. Twenty years later, as a mother to two young children and someone who has endured my fair share of loss and illness, I look forward to the day when the safe, effective and meaningful personal experiences I saw at Hopkins can be made legally available to my fellow Vermont residents.