

**DR. WILLIAM LOVING:** When I did my psychiatric residency, I didn't do the rotation and drug and alcohol dependence, because I didn't want to be-- I thought all the people that had that problem were psychopaths. My experience had to do with being in emergency rooms, and we'd have people that would come back, and it was a difficult population. And I really was ignorant about this disease.

Later on, I joined Dr. Niemer's group, and Dr. Niemer, as she said, started the first 28-day program in town and the first outpatient program. So when you get the new guy in the group, you start taking vacations. So he left me with 10 or 12 alcoholics and addicts to see, and we had them in the hospital for 28 days. So I had to learn some things.

So I started learning detox first, because that was real medical, I thought. And then the counselors started teaching me things, because they didn't want an ignorant doctor around them so much. And so they started feeding me information.

And then I got interested and started going to meetings. There was the American Society of addiction medicine, and then started reading and learning about it. And then I found out those people I didn't want to be around were some of my family members and friends. And I got over my prejudice and my ignorance about the whole problem. And since then, I just really enjoy treating this group of people.

So I'm going to talk about the problem and then the solution, and something about what they call dual diagnosis or co-occurring disorders, because a high percentage of people with drug and alcohol dependence have psychiatric disorders, like depression or bipolar illness. And you have to treat both, if you're going to help them get sober.

They used to call this the disease concept, but I think it's beyond concept now. It's really been proved that there is a disease of alcoholism and drug dependence, and it hits somewhere between 15% and 20% of our population-- maybe around 18%. And there's something different about these people than the other 80%, 85% that gets them out of control.

I happen to look up a definition of disease at the TMA library just not too long ago. It has three elements So recognize ideological agent, identifiable group of signs and symptoms, and a consistent anatomical alteration. And I think this disease fits all those categories.

By this time, they've-- by functional MRI scans, and PET scans, and some expensive research tools, they're able to identify what's different about the brain of a person who has the disease of chemical dependency versus a person who does not. There's some consistent abnormalities in the brain.

And the best way to think about this problem is to call it a self-induced central nervous system disorder. Of course, the major part of the central nervous system's the brain, and the self-induced part, you have to expose yourself to the chemicals before you get out of control with them.

So there's a big difference in the disease of chemical dependency and drug abuse or alcohol abuse. And in our hospital, we treat people who have the disease. We don't treat people who are just abusers.

Now, admittedly, the person with the disease starts out with some experimentation and abusing of the drugs, and then they find out later that they're out of control with it and addicted to the drug. So the abuse implies some degree of control, where bad things start happening in your life and you quit using. And with this disease, bad things start happening to you, but you can't stop using. And that could be drinking or using whatever drug you can name that gets you high. Those are the people with the disease.

In this day and age, you probably know this, but you can score any drug you can name in high school for sure, at lunch time. And in many middle schools you can score-- name the drug and-- There are different pills that are popular like Xanax and Vicodin or Norco, and marijuana is pervasive. And also heroin is fairly popular these days. And nowadays, the younger kids don't think of marijuana is all that dangerous necessarily. It's pretty tragic, really.

If it is a disease, and it is-- it's not a willpower problem. It's not a problem of intelligence. It's not a morality problem. It's really a disorder of the central nervous system. And the people who don't have this disease have trouble understanding it, because, for example, with alcohol, the 80%, 85% of the people that don't have this brain disorder, which I'll tell you what it is in a second, they drink one or two drinks, three maybe, but by that time you start feeling a little bit out of control and you naturally stop using more.

With the alcoholic, more is better. Three is great, four is better than that, five is better than that. And the 80%, 85% of the people who don't have the disease figure that the alcoholic ought to be like them. Don't they know better than to get so drunk that they're falling down and so forth? But alcohol makes the alcoholic feel different than a non-alcoholic.

If you ask an alcoholic how alcohol makes them feel they'll say good, and they'll say it from their diaphragm, like an opera singer singing good, and meaningfully. And three, four drinks is good, and five is better. But the non-alcoholic you ask them how alcohol makes you feel, and they say well, kind of good, and maybe uninhibited and kind of talkative, but my third drink, I start feeling a little out of control and not so good, so I back off. And it's truly a different-- in the way the chemical affects the brain.

And that's not so unusual for other drugs. I mean take Benadryl for example, which is the drug that's in a lot of over-the-counter sleeping medicines, like Tylenol PM. About 85% of the people who take Benadryl get sleepy from it. Another 15%, though, feel wired from it. And so it's not so unusual to have a chemical have a different reaction to another person's brain.

So, these people don't have weak willpower. It's just that willpower doesn't work when it comes to controlling this disease. In any disease, willpower doesn't work, if you think about it. Next time you have diarrhea, will yourself not to have it. I mean if it's a physiological problem willpower doesn't work.

It's not an intelligence problem. I learned this a long time ago. I was in my psychiatric residency and in the middle of the night we would get a call to go see patients, and it was usually an alcoholic that needed to be admitted for detox. And so, I knew how to write Librium orders, and I woke up at 4:00 in the morning and admitted this fellow that had-- it was memorable to me because he had dirt on his eyelashes, and I'd never seen that before. He was really-- looked like a homeless kind of guy.

And I wrote his orders, and then I realized this guy had a beautiful vocabulary and really beautiful diction and everything. And then I said, what gives with you? I don't get it. You look like you're completely out of it and you sound like a professor. And he said, well, I was a professor. But alcohol lost every-- lost my family and my job as a sociology professor.

And then at that time, a light bulb went over my head, oh, you mean intelligence doesn't have anything to do with this alcoholism. But I didn't use that information until about 10 years later. But like any disease, dumb people get it, smart people get it.

It's not a morality problem either. It's not a problem of bad people. However, it gets confusing, because when people are out of control they do things that they're not proud of. About every patient that comes into our facility has a tremendous amount of shame and guilt about things that they've done when they were out of control.

One of the reasons for that is the drugs that get people high also disinhibit the brain. And the brain, a lot of the energy from the brain goes into inhibiting impulses, like when you get angry you don't just punch the person or choke the person you're angry at. You may feel like it, but you inhibit that impulse. Or you see an attractive person, you don't just jump on them. You inhibit that impulse.

But the drugs that get you high disinhibit the brain. You don't have good brakes, and so people tend to do things on impulses that get them in big trouble. That's just one of the reasons that people have such bad behavior when they're using.

And the other is their judgment is clouded and everything else. So they may do things that are against their own ethics, but it's not the basic problem.

And so here's the defect, so to speak. If you separate the mid-brain from the neocortex of the cerebrum, you have the mid-brain that goes into the brain stem end down into the spinal cord. This is what some people call the reptilian brain or the-- this is the primitive part of the brain. And it has to do with the hypothalamus there controlling hormones, and there's a breathing center in the brain stem that keeps you breathing.

Also, the limbic area is in the mid-brain where a lot of your emotions happen. And there's a center called the reward center that's in the mid-brain also, or the pleasure center, or the ventral tegmental area, if you like. But it's in the mesolimbic area of the reward center. And it's the part of your brain that has to be stimulated to make you feel high or euphoric.

Before I knew about brain anatomy, I figured that the reward center would be in the higher functioning part of brain like in the neocortex, like partying is a higher function. It's not. They can prove that there's a reward center in rats and they do a lot of experiments with rats and monkeys and so forth on the reward center.

The reward center is what has to be stimulated to make you high, and it's stimulated natural, certain natural ways, of course, like sex and intimacy, certain kind of exercise, and completing a job. Certain artistic, spiritual things stimulate it. There's certain natural highs.

But all the drugs you can name that people get out of control with have a lot of activity at the reward center. They stimulate the reward center. Once the reward center's stimulated, it makes a person feel euphoria or high. It starts kind of a cascade of things that happen with dopamine, and so forth, throughout the-- especially into the frontal lobe, that makes a person high.

The reward center does two things. Makes you feel the euphoria, and then it says do that again, and wants you to repeat that experience. And what they proved through functional MRIs and so forth, is that the people who have this disease or chemical dependency have a reward center that is supersensitive to these chemicals, to alcohol, and marijuana, and opiates, and so forth. The reward center just really, really reacts to it. So they get a higher high than the average person. And plus they get a much more powerful message from the reward center, do this again.

I told you about the difference in the way an alcoholic will describe alcohol feeling it makes them feel versus non-alcoholic. It kind of can give you an idea about when the alcohol affects the reward center and the alcoholic, they get higher than the average person. And they also get messages saying do that again, which gets them in trouble because they want to drink again, it made them feel so good. But the defect is in the reward center.

Let's see. And with this disease, it's a chronic disease, meaning there's no cure for it. Once you've got this problem, you can have it the rest of your life. The reward center never gets insensitive to these chemicals. So the person with this disease has to manage it in such a way that they can't safely use any drugs that stimulate the reward center ever again in their life. They're going to get out of control with them.

So the alcoholic is in danger of getting out of control with the Vicodin and the Norco that they're given after surgery. They're in danger of getting out of control with benzodiazepines when the doctor gives them a Zanax or Clonopin prescription. So any of the drugs that simulate the reward center are going to get that person in trouble.

That's why I like to call it the disease of chemical dependency, rather than say alcoholism or cocaine dependence. The defect is in the supersensitive reward center.

It was real important for me to finally accept that this is a chronic disease, because when I first started treating the patients for Dr. Niemer, I knew a lot about insight-oriented, analytical kind of therapy. And I figured that well, these people were all kind of neurotic, and they had bad things happen to them, and they were self-medicating with their chemicals just because they felt so bad.

So in 28 days, I'd try to do this intensive insight-oriented therapy and get to the bottom of their conflicts and all this stuff, and then refer them out for more therapy, and it didn't work worth a flip. The people would be relapsing two months later and come back.

This is not to say that these people don't have issues to work on, but that's not the basic defect. And you don't cure anybody that way with this disorder. Willpower, and logical thinking, and rational thinking and so forth is the neocortex or in the higher functioning part of your brain.

One other thing. If you get a strong impulse from the mid-brain, or the primitive brain, the brain stem, it tends to trump any impulse from the neocortex. And the willpower and logic, rational thought is in the neocortex.

So if this person is getting a strong message from the reward center, because they're supersensitive, and it's telling you to do it again, their willpower, their logic may say, oh, I can't miss another Monday at work, or I can't get another DWI, but it gets overpowered by this impulse telling them to do it again. And that's what gets these people in trouble and out of control.

An example of this is one Halloween, my son kept eating his Halloween candy. He's about 10 years old. And I said, well, you know, you're going to have to cut back on that. He kept eating it. So I said if you don't quit eating it, I have to pick it up. He kept eating it. So I took his Halloween candy away. And he came to me and said, if you don't give me my Halloween candy back, I'm going to hold my breath till I turn blue and die.

Of course, we know he can't do that. But the reason he can't do that is he can be-- and he's stubborn-- he can have a lot of willpower and stubborn that is giving him a message from this part of his brain, but the breathing center in the brain stem is going to tell him to breathe. And it's coming from this primitive part, and it's going to overpower his willpower and logic.

That's kind of a crude example, but it's really what happens to the alcoholic and the addict. When they get a message from the reward center saying, or you call it a craving, you have to get high again, it overpowers their willpower. And if you know any of these people-- well, like the people that come to our hospital, every one of them has tried to quit, and has told themselves they can't do it anymore. And they try and they find that they just can't pull it off.

Now some of them-- I've seen several people who quit for 30 days just to prove they could quit. But the important part of that experiment is the 31st day, they go back to drinking or using like crazy. They do have some willpower, but it gets overpowered by this disease.

So that's the defect.

Now, this is kind of a nice little cartoon of the brain and different parts of the brain functioning in different ways. This is just a way to think about the problem. I did the frontal lobe saying that stands for social functioning, SP stands for speech, there's a speech center in the left.

And you have your motor strip for voluntary movement. J stands for judgment, or you could say willpower or logical thinking. VIS is the visual center in the occipital area. And then you have, I put the breathing center in here, and the brain stem, and it said balance in the cerebellum. Admittedly, this is a pretty simplistic way of looking at brain anatomy. But showing that different parts of the brain do different things.

OK, when a person drinks alcohol or uses a drug to get themselves high, and they know which ones they are, they don't think of it this way, but they're trying to get it to the reward center. The only way to get it to the reward center is get it into the bloodstream to the reward center. You can get in the bloodstream by swallowing it, or snorting it, or smoking it, or shooting it directly into the bloodstream.

But they have to get the certain drug into the bloodstream. And they get to the limbic area, which is that biscuit-shaped striped thing, and the reward center is that black dot. The arrows go away from the black dot to indicate it also says do it again, once you've stimulated it.

OK, they get it to the reward center, but, of course, the drug goes to all these other areas. And we all know medications have side effects, drugs have side effects. And the side effect of, say, alcohol, well, it screws up your social functioning, it may slur your speech, it for sure impairs your judgment. If you drink too much, it'll stop your breathing. Cocaine or amphetamines abuse will make you talk rapidly. They all tend to mess your judgment up. And heroin will stop your breathing is one side effect, will slur your speech.

But nobody takes these drugs, including alcohol, to get the side effects. But you can't get the effect you're after without the side effects, and the side effects is what gets people in trouble, like the disinhibition I said earlier on. And what we see in the person who's using drugs is the side effects. We see the stupid behavior, or the tripping around, or slurred speech or whatever. They tend to be unaware of it and have poor-- Because insight is another brain function that's screwed up by the drug. So you have poor insight.

If you're at a party and you see somebody that's kind of drunk and you say you sure you're OK to drive? I mean that's kind of a dumb question, because they're not going to know. Their insight judgment's terrible. So it's one way to think about it. The side effects is what gets people in trouble.

The limbic lobe's important because people use drugs and alcohol for two basic reasons. One is to get high or the euphoria, but then after a while they get tolerant to that, and so they don't get high like they used to. But the limbic area, which is really adjacent or kind of part of the reward center, is where your emotions are. People use the drugs to change the way they feel, and that's where that happens. So that's the area where the action is in the mesolimbic area.

So people use the drugs to get high, hopefully. After time, they don't get high like they used to, but they can count on it changing the way they feel, which is what happens in the limbic area. And so they get to where they're using the drugs to handle their stress or their feelings.

And I'll tell you one extreme example of that, like grief reactions. We all know that's a normal reaction to a loss, especially a death. But somebody who's doing drugs short circuits their grief reaction. Kind of numbs them out and they don't grieve. And they tend to use the drugs to numb that away. I've seen that dramatically several times.

And when we get people in the hospital and withdraw them from drugs, if they've had some kind of significant loss, sometimes they're grieving like it happened last week. And one case I had was a woman who was addicted to Vicodin and withdrew her from that. And several years before, her four-year-old child had wandered into the pool next door and drown, and that's about time she started using the Vicodin. There's something about hydrocodone.

A lot of people tend to come to treatment when they reach about 30 pills per day, believe it or not. I guess it gets to the point where it's pretty hard to keep your supply up. But I can tell you these people are really good at keeping the supply up. And I guess it's because the primitive part of the brain, like hunger or thirst, is telling you you must feed it, and you find a way to survive that way. And they find a way to keep their habit going. At 30 it gets pretty hard.

Now, I have to tell you that the way they get that far is they doctor hop or they go to emergency rooms. But nowadays, you can get it delivered to your door from the internet. So it's not hard to get these drugs.

But that's an example of effects on the limbic area. So they start using the drug to handle their stress.

And there's a difference in abstinence and sobriety. I should say that in your handout there's a part on just sort of, its kind like addiction 101, their definitions. The difference in sobriety and abstinence, the difference in detox and recovery. And there's some other little articles in there that are worth reading, I think, especially since I wrote them. But I think they're worth reading.

In treatment, what we go for is sobriety. Abstinence is where somehow you're not using the drugs or alcohol some way. Either you're stressing your willpower to the nth degree, or maybe you're in jail and you don't have access to it. There's a difference in jail and prison. In prison you have access to plenty of drugs now. In jail I think it's harder to get them. But you're just not using the drugs.

That doesn't last. You've heard the term dry drunk probably. A dry drunk is somebody who's abstinent. They're not using. But they're not sober. Sobriety is where you're taking the drugs and alcohol out of your life, but you're putting other things in place of the drugs and alcohol. Things that will take the place of them and not be so dangerous, like natural highs, like other ways of handling your stress. And sobriety is what you go for. You're changing the way you live life, rather than just depriving yourself of the drug. And there's a really big difference.

People who are sober can live a happy and healthy, and actually, they get better than the average person, if they do it right. And then they don't feel deprived. We go for sobriety.

And I said that the hole left by-- when you take drugs out, the hole left that you have to fill, one is natural highs. And I tell patients when they come in, you're not here to give up getting high. You just can't safely use chemicals to do it. So we get them practicing other things that give them pleasure, like exercise things, and I can talk about that if you like, but I think most of you know what I mean by the natural highs.

And then new ways of coping with uncomfortable feelings, and there are lots of techniques for that, how you cope with anger and so forth.

And then there's a spiritual deficit that happens with these people, because when you start using drugs, it starts taking over your life, really, and you become isolated, you tend to give up your friends and hobbies and so forth, and you tend to get very self-centered. All you care about is how you're-- you get obsessed with the drug and how you're going to get high, how are you going to change the way you feel, and keeping the supply, and so forth, going.

And that self-centeredness is the opposite of any kind of spiritual approach to life. And once people get off the drugs, they start finding that they're not the center of the universe. There are people after them for money and they're angry at them for this and that, and they start realizing they're a little cog in the universe. And that's really the beginning of spiritual thinking, if you think about it.

In AA there's talk of higher power and so forth, and it's really important that they address that, looking at life from a bigger perspective. I find that refreshing because as a psychiatrist, traditionally, we ignore the spiritual part of life, which is ridiculous.

I mean if you think about it, we all have help as a part of our life. We have maybe family life and work life, but we all have a spiritual part of our life, at least our relationship to the unknown. You may not pay much attention to it, or you might pay a lot of attention to it. But we all have that as a part of our life.

So for a psychiatrist to ignore a spiritual part of life, and I say that in a generic, really broad sense, and I make a distinction between spiritual and religious. There's nothing wrong with addressing it from religion, but spirituality is bigger than religion, and I find that a lot of the patients we treat have had bad experiences in churches, or they maybe have authority figure problems or something, but they don't want to talk about God and religion. But they can talk about a power greater than themselves, which may lead them farther down a path of spirituality.

I was going to talk about dual diagnosis, which my partner used to say ticks and fleas. In medical school, we try to get the symptoms and come up with one disease, usually. But you can't always do that. And my partner, Dr. McCary used to say, well, you can have ticks and fleas. You can have this diagnosis and that diagnosis. You make an attempt to make the symptoms focus on one.

But it turns out that around 40% of the people with drug and alcohol problems have some diagnosable, maybe 30% or 40% psychiatric disorder that needs to be treated. And if you don't treat it, they're unlikely to get sober, because they have too much pain from that and they tend to self-medicate more that way. So you have to treat the psychiatric disorder and the chemical dependency disorder concurrently. You have to treat them at the same time.

Let's see if there's anything else I wanted to say about the disease of chemical dependency. I hope I got that across to you, that there truly is 15%, 18% of our population that has that. And that means-- I don't know how many people are doctors in here. That means that you doctors see a percentage of people with chemical dependency. You may or may not know what to do about it, and you're busy focusing on your own specialty, and of course you don't have to treat it, especially if you don't know how to treat it. But it's a good idea to keep it in mind, or to try to recognize it, and/or refer people for help.

I think, for example, I've tried to look for percentages, but I couldn't find them. But like a gastroenterologist, I think probably I bet 25% or 30% of the patients have problems with alcohol and/or some other drugs, especially alcohol because alcohol is so toxic to the whole GI tract.

I did ask the head of the Brackenridge ER what percentage of patients they see through there have drug or alcohol problems. He didn't hesitate. He said about 85%. I asked the head of Seton Northwest how many-- that's more of a suburban ER, he said around 60% or a little more percent have drug and alcohol problems.

Now, when you're in the ER, you have to move people through and you treat the-- as one of my partners also said, you shoot the alligator closest to the boat. You saw off the head or whatever, and it turns out the guy fell off the latter because he had too much to drink and he shouldn't be on the ladder in the first place. You have to get to the next patient, so I know it's difficult to talk about the fundamental problem. But the reason the guy got hit on the head was because he was stoned or something.

It's important to at least keep that in mind. Like the internist trying to treat somebody with hypertension, and maybe you have trouble treating it. Sometimes they're drinking, which make sure your blood pressure go up. And it's important to keep that in mind.

There's an article in here called "Bottoms Up," which is for doctors, mostly. In AA they say you don't get help until you hit bottom. And you can look at it this way, like cost benefit ratio. The benefit's over here and the cost is here. Well, remember, the supersensitive reward center, they're getting a lot of benefit-- more than most of us get from drinking or whatever, or drugs. But they get a lot of benefit, and they have to lose a lot in the cost before they break through the denial that they have the disorder.

But everybody knows denial is a big part of alcoholism and drug dependence, but denial is a big part of any chronic disease. Diabetics, or I mean juvenile diabetics, they're really hard to treat because they can't believe they have it. They have a lot of denial. I have asthma, myself, and I learned about denial. With a chronic disease, you feel good.



I did a lot of running and all this stuff. I couldn't identify with having a disease. I'd get off my medicine, and one time I ended up in the hospital after sweeping the garage up and stirring up a bunch of dust. And my doctor says to me, well, you're taking your medicine, aren't you? No. And I'm a doctor. I ought to know better. But denial is a part of any chronic disease, and it's especially a part of this one.

Back to the doctors. You can bring the bottom up to these patients. And I use an example in here. When you do routine lab work, and I guess I don't want to emphasize alcoholism so much, but it's a big problem. If you look at routine lab work and you see an elevated AST and ALT, even it's a little bit elevated, and you see an elevated MCV on the CBC and MCH. Pretty much you can kind of count on that's probably an alcohol problem. There's not much else that does both those things, elevates both those things.

And there's some other lab clues that might tell you that the person is drinking too much or something. And, of course, in our evaluation, we need to ask them are they using drugs and alcohol. People generally lie about that. But it's a good idea to keep that in the back of your mind that this might be a factor, because a certain percentage of your patients are going to have this problem.

Then, you have to know what to do about it. And don't be afraid to refer them to 12-step programs, AA or NA. Those are the best things that work. I'll talk about treatment now, and not say so much about dual diagnosis, if you don't mind.

I've done this for about 30 years, and I've just seen that most of my patients who have done well with this disorder to get sober, have used a 12-step program. So I'd say it that way, because in Austin we have marijuana anonymous, cocaine anonymous, narcotics anonymous, dual recovery anonymous, and AA, and they all use 12-steps or the basic fundamentals of AA.

And the people who use those programs are the ones that do the best. And those are where the other people with the disorder are, they can get advice from somebody that's farther along, which would be you get a sponsor, like a big brother big or big sister to help you along. And that's where they need to go.

Now, people will say-- and it's part of their denial-- I don't want to be around those people, or I don't like those groups or something. But you still try to-- it's what works. And eventually, when they will try it out, they'll find that it does work well. And to make it work, they have to shop around and find meetings that are palatable, and there are big meetings and little meetings, there are women only meetings.

I told you they're different-- there's marijuana anonymous or different meetings like that. They have to shop around. And then once they find a meeting they like, then they see who knows what they're talking about and try to get a sponsor, and the sponsor will help them. And then they work all 12 steps. If they do find the meeting, get the sponsor, work all 12 steps, the program works like a champ. The people who say it doesn't work left out one or two of these things.

So don't be afraid to refer them to 12-step programs. In Austin, you can dial 1-411 and ask for AA, and you get a volunteer on the line and they'll tell you where the meetings are, and they'll even send somebody to take you to a meeting, if you want.

And if you look on the internet, there are just meetings all over town. 12-step groups are kind of like a secret society. They don't brag about it or anything, and they're not supposed to advocate it, actually. They say we grow by attraction, and we don't grow by promotion. That frustrates me, because I think it ought to be promoted. It's actually very helpful and really works if you do it right.

So don't be afraid to refer them to a 12-step program. And if you do that, and you have a patient that you're following over time, then you might ask them well, how are your meetings going, and did you get a sponsor, and did you work on the steps. That's the package that you have to do. If you leave some of that out, it doesn't work so well. But don't be afraid to do that.

And as a matter of fact, when you're bored sometime, which none of you probably are, you might go to a meeting to see what it's like, because it's pretty remarkable. Some people say well, it's two cult-like. Well, they say that sometimes because at the end of a meeting, some of them will hold hands and they'll say come back, it works. Sometimes they'll say the Lord's Prayer or they'll say the Serenity Prayer, but people can leave before that.

But if it is a cult, we ought to all be members because it advocates honesty, accountability, helping your fellow man, living without drugs in your system. It's pretty interesting, too, if you look on the internet, look up wise sayings from AA. There are lots of sayings. You've probably heard some of them like one day at a time, and HALT means don't get too hungry, angry, lonely, or tired. That means don't get too stressed out. What are some of the other sayings? You have to give it away to keep it.

But if you look on the internet, you'll see 30, 40, 50 wise sayings. And if you look at every one of them, I'll bet you won't disagree with any of them. They're things that your grandmother or grandfather would tell you about living life. Like the Serenity Prayer is often said there, and if we all could live all the time like the Serenity Prayer advocates, we'd be a lot better off. So don't be afraid to send people to AA or NA. It's really helpful, but there's a hurdle they have to get over to get themselves to accept it, I suppose.

I think I'm almost done. I'll say-- just a little more time-- about the dual diagnosis or co-occurring disorders, the high percentage of people with psychiatric problems. The only way the 12-step programs don't work is if you also have bipolar illness, or major depression, or panic disorder, or post traumatic stress disorder that's not treated. Because they get so uncomfortable, they have to have relief.

I remember Dr. Niemer used to tell me, Bill, now the brain's like the computer. And I'd say, yeah, yeah, it's like a computer. And he said, well, if you do a search for stress relief and enter, if you're a chemically dependent person, what comes up is use. And it will tell them-- they get sophisticated, sometimes they'll mix their drugs and things.

Well, once a person is in recovery, they're still going to have stress. So when they enter stress relief, you have to reprogram the computer. They have to learn new ways of handling their stress, because they can't safely use the chemicals anymore.

So you could imagine with a person who has bipolar illness or depression and so forth, their distress is such that they go quickly back to their old method, if you don't treat that too. And with those psychiatric disorders, they can be stabilized and treated, and if they are, then the 12-step programs work just fine.

And some of the failures in chemically dependent people and treatment is because they didn't have this other disorder treated as well. And it's as though they have two brain disorders. They have the self-induced central nervous system disorder and this other psychiatric disorder, but they're both treatable.

A lot of programs only center on the chemical dependency, and that means they are only successful with a certain percentage of people. They don't treat the people with co-occurring disorders, which is a pretty high percentage.

I think I'll just stop there about that. Maybe I could say something else about the handouts you have.

There are basic things on definitions in the first part. There's "The Elephant in the Exam Room" is an article. It's obvious, I guess, that the doctor that-- sometimes the disorder, it has to do with their drug and alcohol problems. And it's tricky to ferret that out, especially if they have a wife or husband around. Sometimes you get better information from them, of course.

And then the trick is to not be judgmental, of course, because it's a disease. And you try to let them know there is a way to treat this that really does work. I mean these patients are truly treatable. There's plenty of hope you can give them.

And then there's "Bottoms Up." One thing about statistics in this disorder, you read some that are just so big that you can't get your mind around it. At least I can't. They'll say something like-- you've probably read this about health care dollars. So many billions of health care dollars every year are consumed or something by people that are chemically dependent, because they tend to get in wrecks and things like that.

That never meant much to me. But I have a few statistics here that 60% of child abuse cases have to do with drug and alcohol dependence. One of the parents is using or both. 60% of fatal car accidents, maybe more, have a drug or alcoholic impaired person. 50% of drownings are related to drugs and alcohol. Did you know that?

I learned that because I had a patient who, he had raced his brother across a cove at Lake Travis, and his mother said they were both fine swimmers. And then I found out they were at the family reunion, they had kegs of beer. This guy was really drunk when he swam. I mean you can't even find the surface when you're really drunk. This guy drunk.

Some of the fraternity boy trying to impress the girls diving into the shallow end of the pool when he's drunk. He knows better than that, of course. But he's disinhibited, his judgment's bad, his impulse control's not good. That kills some people. Things like that.

50% of accidents and family violence. Well, this is a recent article. I read 30% of fatal injured bicyclists have elevated blood alcohol levels. That's the bicyclist. I wondered who rides a bike-- I like to cycle-- I wonder who rides a bike drunk? Well, I found out from one of my patients. He had his license taken away. He was riding his bike to the liquor store. And he broke his rib because he fell over before he got out of the driveway on his bike.

And, of course, the fireman was hit not too long ago on Manchaca Road, and the guy that was driving admitted taking Ambien that day. That's a sleeping pill. He was taking it during the day.

And you have some other articles here I hope are interesting to you. But I'll do question and answer if you have any questions or comments.

**AUDIENCE:** At the end of the day, how successful is this disease?

**DR. WILLIAM LOVING:** To treat. So at the end of the day, how successful is this treatment for this disease?

OK, I'm not trying to hedge the problem. But in a chronic disease, what are your expectations? You're not going to cure the person.

It's very successful, actually. It's especially successful if a person comes to treatment on their own, not because their wife made them, or not because the judge made them. Although sometimes, that can help too. If the patients do what we tell them to do and are compliant, and with doctors, the longer I practice medicine, the more I think about compliance. And if they're compliant, it's very, very successful. Very successful.

But chronic diseases-- well, I used to get mad at my patients when I thought I could cure them with this analytical therapy. That's not good form to get mad at your patients when it doesn't work. But my expectations were off. When I have expectations of a chronic disease, then with a chronic disease, you don't want relapses. With asthma, you would say exacerbation, but with chemically dependent people it's a relapse. You don't want that. You try to avoid them.

But we have people who are sober for 10 years and maybe some terrible stress happens and they relapse, but you get them back into treatment. So it's hard to talk about how successful. If they do what we tell them to do, they use the methods I'm telling you, it's very, very successful. I mean it's 85%, 90% successful. There are a lot of factors involved. Some people call this a biopsychosocial, and some people add spiritual, disease. There's biology involved, psychology involved, and social--

Like our society, for example, it's very hard to be sober in our society if you travel. You get on an airplane, and if you're in first class, they're giving you drinks or you're buying-- it can be 10:00 in the morning and you can order a drink. Next time you're on an airplane, once you get off, see how long it takes you to see a bar. It's like 20 yards from each, there's a bar.

So it's not easy for the people of this disease. The majority rules close to 85% of our population doesn't have the problem of controlling, and so they don't have a problem with those bars. But the 15% or 18% of the people with this disorder, really difficult time.

I'm sorry I can't give you a really clear answer.

The other problem with this, when they study Alcoholics Anonymous, underline the word Anonymous, it's hard to follow those people. But it's very successful. The treatment works when they do it. And a lot do. You can come to our alumni group. We have at least 30 or 40 people in our alumni group every Wednesday and they're doing well.

**AUDIENCE:** Recently, there's been a lot of press about marijuana not being a gateway forum, or the actual criminal activity associated with marijuana needs to be addressed in a different fashion, which we currently incarcerate. How do you feel about that?

**DR. WILLIAM LOVING:** OK. She's asking about marijuana being a dangerous drug and the criminal part, or the legal part of marijuana. Your last article's "The Myth of Marijuana."

Marijuana is truly an addictive drug. Like any addictive drug, it's going to get 15% or 18% of the population. There are the other 80%, 85% can dabble in it and not get out of control.

I used to be the medical director of the Phoenix Academy, which is an adolescent treatment center. And I used to do it in Dallas and here. I'd fly on Wednesdays to Dallas. Every kid that went in there had the same history. They'd start smoking marijuana first, and it would be between 9 and 11 years old, or 12-- really young.

And then they would graduate to other drugs, because look, the dealer has new and improved products, and they're offering them up some pill-- it might be Xanax or something. Because they get high, but they want to get higher, and so they try these other substances.

And every one of these kids, they were usually sent to treatment, most of them by the judicial system. They would get in some kind of trouble, like truancy, because they'd stop going to class. People who smoke a lot of marijuana lose their initiative and memory and they don't do well in class, and becomes really abhorrent to go to class.

Or they get some petty theft or they'd have possession or something. And then they get put on probation. The probation officer would say, OK, we're going to test you, your urine frequently. And you have to get off all your drugs. They'd get off all their drugs. They couldn't stop marijuana. Every one of them would come up dirty for marijuana. They'd get sent to treatment. Marijuana is addictive first 15% to 18% of the population. They're smoking it every day.

Now, in our society, we tend to think it's no big deal because it's not dramatic. I mean like with cocaine or amphetamines, people get paranoid on that, they get high hyper and agitated. They get in fights. Alcohol, they do dramatic things. And it's pretty easy to say those are dangerous for people. With marijuana, they're sitting at home playing video games, eating potato chips. People think, well, it's not so dangerous.

I guarantee you, if you have a kid and your kid is smoking marijuana, all the experts agree there's an a) motivational syndrome-- your motivation is way low. Your memory is also affected. These kids don't do well in school.

If you have a teenager that's smoking marijuana, they're not going to be doing well. Plus they get irritable and kind of surly. And that's a danger that is not so dramatic, but it's something that takes away from this kid. And I'd say it's definitely underestimated as a dangerous drug, and it's ridiculous to say it's not addictive. It is.

But the thing is, people say, well, I smoke, and I'm not getting addicted. Well, 80% to 85% don't get out of control with it. But there's still this percentage that do. And it is a gateway drug. I mean how can you say it's not? I mean dealers offer other things.

And when you get high, your reward center's saying get high, but it's like America, you want to progress, so you want to get higher. And they try other things and they sometimes get hooked on other things, like heroin. Teenagers, it's not unusual for them to be using heroin.

OK. There's another argument about marijuana, though, about the decriminalization. I could argue that we have too many people in prison for possession of small amounts, and usually they're minorities, and that's not a good idea. These people need treatment. They don't need to be incarcerated, really.

So I'd say there's another argument about, not maybe legalization, but decriminalizing it to some degree. So I could say that I don't know that it's a good idea to make it legal. We already have one fine intoxicant that's legal, alcohol. Why do we need another one? But probably you should decriminalize it.