# **Evaluating Treatments for Addiction**

#### Introduction

- We need to help people with addictions, both for their sake and ours.
- Many ways to treat addicts have been proposed and implemented.
- Addicts who need help, administrators who allocate money for programs, judges who assign inmates to programs, health professionals deciding which programs to offer, and people who want to direct a family member or friend for treatment need to know which programs are best.
- We need clear standards for how to evaluate treatments for addiction.

Here I will set out the basic ideas about what we can and should do in evaluating treatment programs for addiction. I will focus principally on evaluating programs that treat addicts individually, though I will consider in contrast programs that are meant to deal with addiction in a more general way, such as a tax on tobacco.

Most evaluations use and indeed are expected to use numerical analyses of data collected for the programs. Here I will focus on the key ideas about what constitutes a good/useful/convincing evaluation, since those must be understood before any data is collected much less analyzed numerically. Only in the last sections will I make suggestions about what programs might be effective.

#### **Objective versus subjective**

Objective criteria for evaluating addiction programs is considered superior to subjective criteria, especially if the objective data is given numerically. But what is meant by "objective"?

A claim is *subjective* if whether it is true or whether it is false depends on what someone, or some thing, or some group of people thinks, believes, or feels. A claim that is not subjective is *objective*.

For example, the following is subjective:

(1) Heroin addicts prefer heroin to food and shelter.

It's about what heroin addicts think, believe, or feel. The following is objective:

(2) Someone who has been injecting heroin two times per day for one month and has not had heroin for two days, and has not eaten for two days, and has no place to sleep, and who has no money, if given \$100 will spend it on heroin.

It may seem clear that the subjective claim (1) follows from the objective claim (2). But *no subjective claim follows from only objective claims*. No observations about what a person does can lead to a claim about what that person thinks, believes or feels without some assumption about how behavior links to thoughts. In this case we can use:

(3) If someone has no place to sleep and no food and spends his or her money on heroin, that person prefers heroin to food or shelter.

That seems obvious. But in many cases when we try to formulate the link between the objective claims and the subjective conclusion we find that we have to make a substantial assumption that is not obvious.

We classify *criteria of evaluation as subjective* if they contain even one subjective claim. Otherwise, the criteria are *objective*. It would seem that objective criteria are always superior to subjective ones, for what is objective, it's thought, is clear and precise and not subject to judgment. But often considerable judgment is needed to interpret numerical data. And often subjective claims require no judgment to evaluate. For example, almost everyone agrees that the subjective claim "It is wrong to torture puppies" is true. We have no difficulty in adopting it as a standard for enacting a law about humane treatment of animals. When (almost) all of us agree that a subjective claim such as this about puppies or (3) is true, we say the claim is *intersubjective*. Intersubjective claims can be as useful as objective claims in evaluating whether a treatment program is effective.

#### Definitions of "addiction" and "addict"

Here are some definitions from sources concerned with treating addiction.

Addiction is a primary, chronic disease of brain reward, motivation, memory and related circuitry. Dysfunction in these circuits leads to characteristic biological, psychological, social and spiritual manifestations. This is reflected in an individual pathologically

pursuing reward and/or relief by substance use and other behaviors. Addiction is characterized by inability to consistently abstain, impairment in behavioral control, craving, diminished recognition of significant problems with one's behaviors and interpersonal relationships, and a dysfunctional emotional response. Like other chronic diseases, addiction often involves cycles of relapse and remission. Without treatment or engagement in recovery activities, addiction is progressive and can result in disability or premature death. American Society of Addiction Medicine

Addiction is a complex condition, a brain disease that is manifested by compulsive substance use despite harmful consequence. People with addiction (severe substance use disorder) have an intense focus on using a certain substance(s), such as alcohol or drugs, to the point that it takes over their life. American Psychiatric Association

The definition of addiction is explored. Elements of addiction derived from a literature search that uncovered 52 studies include: (a) engagement in the behavior to achieve appetitive effects,

- (b) preoccupation with the behavior, (c) temporary satiation,
- (d) loss of control, and (e) suffering negative consequences.

Differences from compulsions are suggested. While there is some debate on what is intended by the elements of addictive behavior, we conclude that these five constituents provide a reasonable understanding of what is intended by the concept.

Conceptual challenges for future research are mentioned.

"Considering the Definition of Addiction" Steve Sussman and Alan N. Sussman, International Journal of Environmental Research and Public Health, vol. 8, October 2011, pp. 4025-4038

Addiction is any repeated behavior, substance-related or not, in which a person feels compelled to persist, regardless of its negative impact on his life and the lives of others. Addiction involves:

- 1. compulsive engagement with the behavior, a preoccupation with it;
- 2. impaired control over the behavior;
- 3. the persistence or relapse despite evidence of harm; and
- 4. dissatisfaction, irritability, or intense craving when the object—be it a drug, activity, or other goal—is not immediately available.

Gabor Maté, In the Realm of Hungry Ghosts, pp. 136-137

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To classify a person as an addict by any one of these definitions involves subjective criteria: the person has "a craving"; "diminished recognition of significant problems"; "intense focus"; "preoccupation with the behavior"; "temporary satiation"; "dissatisfaction, irritability". A drug counselor, a judge, a jail administrator, a researcher, anyone who classifies a person as an addict by any of these definitions must draw a conclusion from the person's behavior to the person's thoughts, feelings, or beliefs. Still, most of us would agree in most cases whether the criteria apply. So in use these criteria are usually intersubjective.

Invoking what counts as a "harmful consequence" or "negative impact" is also a subjective standard. Usually most of us agree on our classifications of outcomes as good or bad. But the group of people whose agreement is invoked often excludes addicts themselves. We would classify death by an overdose of drugs as a negative consequence, yet I have met addicts who say that it is a welcome consequence, though not one they actively seek. We would classify buying and injecting drugs of unknown origin and purity as a bad consequence of addiction, whereas an addict might classify that as a good outcome for the need she has.

Since any criteria to evaluate whether a program for treating addicts is effective must involve a definition of "addict" or "addiction", the criteria must be subjective.

There is no way to avoid a subjective basis for any study of addiction.

That does not mean that every conclusion about the effectiveness of a program is just personal opinion. What is subjective are claims about what a purported addict thinks, believes, or feels, or what we think is a good outcome. We have every right to demand that:

- In a study of addiction the subjective claims on which the conclusions are based are generally agreed to be true.
- Whenever possible, claims about behavior are used in place of subjective claims.
- The evaluation makes explicit the claims linking those objective claims to the subjective ones in the standards and conclusion.

In this way, we can hope to have confidence in an evaluation as intersubjective.

# What do we mean when we judge a program to be effective or successful?

There are two kinds of standards.

What the program says is its goal

Whether it is effective means whether or to what extent it accomplishes that goal. This is the internal standard for judging a program.

Our standards

Whether a program is effective means whether it achieves a goal or goals that we consider important. This is an external standard for judging a program.

For example, suppose your neighbor wants to make a chair. He works at it in his garage. He makes a chair. He has been successful by his internal standard. But the chair is so ugly and rickety that only he will want to use it. From outside, we'd say he should have made a good chair, one that most folks would recognize as a chair and be willing to use. By our external standards he was not successful. Are we justified in substituting our goals for his? Yes, if we are paying him.

#### Internal standards

Let's first consider internal standards for judging a treatment program.

Right away we can say that if a program has no clear goal, then there is no way to judge whether it is effective on its own terms.

For example, suppose a program says that its purpose is to cure addicts. We can't judge whether it is effective because that's too vague. What counts as a cure? Completely abstaining from the addiction—whether that's heroin, meth, gambling, or video games? But an addict can substitute one addiction for another. So perhaps a cure means that the person abstains from all addictive behavior. For a year? For six months? Forever? Or perhaps a cure means not complete abstinence but only reducing the frequency of yielding to the addiction. And how many people who are treated by the program should be cured? One half? One tenth? All?

If a program has a vague standard, then any result can be counted as a success by interpreting the standard in the way that the outcome supports. For example, suppose a program has the standard of curing addicts, not being clearer than that. After a couple years, it turns out that half of the people who participated stayed away from the addiction for one month after the end of the program. That's what we got, and

that's pretty good, the program managers would say; we've been successful. But that's not what they set out to do. It's easy to keep the standard vague and then the program can say it's effective no matter how little or much it does because what it does is what's counted as accomplishing the goal.

If a very clear goal of a program is not given in advance, there is no way to judge the program. There is no direction at all for the program. The program is not worth our time to consider, much less to evaluate.

Some programs do have clear goals. For example, a state legislature institutes a new tax on tobacco with the goal of reducing the number of chronic smokers. That is a standard we can hope to evaluate, perhaps by interviewing people about how much they smoke and seeing whether tobacco sales have gone down. Or a big city sets up a needle exchange program with the goal of reducing cases of HIV and hepatitis. That is clear, and we might try to evaluate it by looking at how many cases of HIV and hepatitis are reported by doctors and hospitals.

To say that the goal of a treatment program must be clear does not mean that there must be an objective, numerical way to decide if the goal is met. A subjective goal need not be unclear, and some subjective goals are very clear. For example, to educate addicts about the risks of injecting drugs is a clear goal. Perhaps some numerical data could be collected from testing, but the link between that data and the subjective conclusion that the program helped addicts understand will be suspect. Other ways, perhaps evaluation by teachers and students, are needed and are not the less reliable for not being objective and numerical.

Someone might object that to set up clear goals is to narrow the program. We'll do whatever we can and hope to accomplish something. But without a clear goal there is no direction, no idea of what the treatment or methods are meant to accomplish, and that alone justifies evaluating the program as ineffective. Besides, the goal need not be narrow: it could be to get at least 50% of all participants to give up all addictions for at least two years after the end of the program. But it's doubtful that a program would adopt that as a goal because it's so difficult to accomplish. To require clear goals forces program managers to become clear about what they think they really can accomplish, which often leads to more "modest" goals.

## External standards

External standards, the goals a treatment program should have, may be established by a consensus among health professionals, or by legislation, or by some other means.

For example, it may take many years to come to a consensus that, say, getting a person to give up one addiction is not enough: the goal should be to get a person to give up all addictive behavior, not trading one addiction for another.

There is a large debate now about whether it is a good goal to try to get an addict to reduce how often he or she uses the drug, or gambles, or plays video games, so that the person can function in society. Part of that debate has to be about what is meant by "function in society." If that can be made clear and that goal is adopted, a physician or legislator might say that a program which sets out to do that has an acceptable goal. Someone who disagrees and believes that only complete abstinence is an acceptable goal would consider a program to reduce harm as ineffective on the face of it. These debates depend on our subjective criteria for what counts as good or bad. But data can be important. If it can be shown that no treatment program gets even a substantial proportion of those it treats to give up all addiction, then as certain as some people may be that this is the only good goal, perhaps they will be willing to accept a "lesser" goal of reducing harm. Good arguments are essential, and basing those on good data can help.

#### Helping all compared to helping some

A broad division in goals of programs for addiction is whether they are intended to help particular individuals or to help society.

For example, if the goal is to help society, then putting all addicts in jail would seem to be a good solution to reducing the harm they do to "the rest of us." But it is not a good program for helping addicts.

A needle exchange program, offering addicts a clean needle in return for a used one, might have as a goal to help addicts not get sick or die. But equally, it could have the goal of helping society as a whole by reducing the incidence of HIV and hepatitis in the community, since an addict can pass those diseases to others.

Any evaluation must be clear about which of these kinds of goals is invoked for judgment.

#### Other factors in evaluating treatment programs

Risk

Judging a program by its internal standards can miss what bad might come from it.

For example, putting addicts in jail for the goal of reducing crime might be effective by that standard. But it has the potential, indeed almost certain harm of making more addicts criminals: they learn how to rob and steal, which they have to when they get out because they can't get a job. That program also has the harm of passing on hepatitis, HIV, and other diseases to both the addicts and others in jail, so that when inmates get out they pass those diseases to others.

Or a program could treat addicts "naturally" by requiring them to give up all drugs, including medically prescribed ones for depression, with the goal of getting the addicts to give up their addictions permanently. That might "cure" some addicts, but it could also lead to more suicides.

Or a needle exchange program could result in lots of needles being thrown away in the neighborhood, with children picking them up and getting infected.

It should be possible to conjecture what risks might follow from a program and then see if those follow. It should also be possible to see if other risks, unforeseen, have followed from implementation of a program.

Cost—and relative worth

How much a program costs and what programs are competing with it for funds are important in evaluating programs.

For example, suppose one program has the goal to keep addicts away from addiction for two years. It's somewhat successful: say 10% of the participants "stay clean" that long. Another program has the goal to reduce the harm that addicts do to themselves, keeping them healthy, and to reduce the harm that addicts do to others, keeping them from committing crimes. It is pretty successful: say, 50% of the people it treats have no new severe infections and are not arrested while in the program. There isn't enough money to support both programs. The first costs a lot per addict, the second cost less than half as much. Which one should an administrator give money to?

Part of an evaluation of a program must be how much it costs for what it accomplishes and how that compares to other programs, both

for the good of the goal and the cost. Such an evaluation depends on what subjective criteria are adopted for the relative worth of programs. No numbers alone can decide that.

#### Means

Suppose a program has as goal to reduce and eventually eliminate all heroin addiction in this country. And it's pretty clear it will be effective. And it won't cost much. Should we support it?

The program will accomplish its goals by distributing heroin mixed with fentanyl in packets that look just like ones that are distributed on street corners. Lots of addicts will die. Others will stop taking heroin for fear of dying, and those that continue will eventually die.\*

We reject the program because we reject the means: the ends do not justify the means. That's not because of the possible harm: many people reckon that an addict dying is a positive consequence not a negative one. No, we reject it because most of us believe that it's immoral, unethical, just plain wrong to kill people.

## Is the program good?

In summary, the evaluation of a treatment program involves judging:

- Whether the program is effective by its internal standards.
- Whether the program is effective by our external standards.
- What possible harm can come from the program.
- How much the program costs.
- The value of the program in comparison with other programs.
- Whether its means are acceptable

No one of these by itself is sufficient.

In the end we are evaluating whether the program is *good*, whether it passes our criteria for what counts as good. That will involve moral, ethical, and political judgment. Thinking that objective numerical data can determine an evaluation is itself a moral judgment: what people think, believe, or feel is not important.

In what follows I will focus primarily on the first two points: how we can or should judge the effectiveness of a treatment program. The

<sup>\*</sup> If this seems far-fetched, consider that in the Philippines President Duterte had the explicit goal of killing all addicts, and he was supported by a significant portion of the population there.

discussion will be, as it has been so far, about the principles and methods involved.

#### Cause and effect

Particular causal claims

To claim that a program is effective, by any standard, is to make a claim about cause and effect. This program caused this result. So we must be clear about how to reason about cause and effect.

Suppose a treatment program says that it's had success with this person: she was addicted to heroin and meth and now no longer takes any illegal drugs. That's a claim about cause and effect: "This person was addicted and entered the program caused this person to no longer take illegal drugs." How can we tell if this is true? After all, it could be just coincidence, or the addict gave up drugs despite being in the program. Here are the standard steps in deciding whether a cause-and-effect claim is true, illustrated with this example.\*

# • The cause happened.

We can describe the cause with the claim "The person was addicted to heroin and meth and participated in the program." It's clear that's true.

## • The effect happened.

We can describe the effect with the claim "The person no longer takes any illegal drugs." We can check that—if the addict is willing to be tested and responds truthfully to questions. That's a pretty big "if", but let's suppose it's been done and the claim is true.

- The cause precedes the effect. This isn't so clear. Perhaps the person quit using illegal drugs before entering the program. She felt that she needed the drugs, but she hadn't taken any for some time before entering the program. This is often the case with an inmate assigned to a program who has been kept from drugs by being in jail.
- It is nearly impossible for the cause to happen and the effect not to happen.

This has to be checked against some obvious assumptions we make but don't normally state, like "The person had a choice whether to take drugs." This condition looks to be hard to verify because there are always many people in a treatment program who do not give up drugs.

<sup>\*</sup> The analysis of cause and effect here follows that textbook presentation in my textbook *Critical Thinking*, 5th edition.

• The cause makes a difference—if the cause had not happened, the effect would not have happened.

This is even more difficult to verify. Some people stop taking drugs on their own, regardless of whether they are in a program.

#### • There is no common cause.

This, too, is difficult to verify. Perhaps the person decided that she would give up drugs, and after that decision entered the program. In that case, the decision would have caused both the addict to quit and to participate in the program. Or the person was in jail and entered the program just because it was less awful than being in jail, and being in jail is what caused the person to enter the program and to quit taking drugs.

These are the steps we have to make in evaluating any particular causal claim: this happened because of that. One person, one "outcome". The problems in doing so, illustrated in this example, make it hard if not impossible to verify any cause-and-effect claim about the success of treating a particular addict. There is too much to consider in each step of the evaluation that we can't know: the person's beliefs, the person's desires, the physical constitution of the person, how much the family supported the addict—the list could go on. Typically we cannot disentangle one of these as being a cause or even part of the cause of the addict being "cured" or "helped" as opposed to participation in the program being the cause.

Above all, there is the difficulty of ascertaining some of the motives, thoughts, beliefs, feelings, and desires of the person who is said to have been cured by the program. Even if the addict is certain the program helped or "cured" him, there is no reason to think it did. Perhaps he was just ready to quit. It's a standard mistake in evaluating causal claims to claim that because this happened after, therefore it was because of. We don't need a psychologist to tell us that often we can't discern why we do what we do, what motivates us. We know this every day if we think a bit, realizing that the rationale we gave for taking the second donut ("I didn't want it to go to waste") was far from the basic craving for sweets this morning that made us eat it.

But what if lots of people who entered the program gave up taking illegal drugs? Surely that's evidence that the program is successful. That's no evidence if all that's claimed is that each of those people was "cured" by the program, for lots of doubtful particular causal claims don't add up to a good general one. What's needed is a

different way to evaluate the evidence that lots of people who entered the treatment program gave up taking illegal drugs.

#### Cause-in-population claims

Suppose a program has the goal of getting the addicts who enter the program to quit all addictions for 6 months after the program is over. And suppose that lots of those who participate in the program do quit, say 40%. To say that therefore the program is successful is to make a cause and effect claim, but not necessarily one about each addict individually. Rather, it would be to claim that participating in the program is a cause, a part of what led the addicts to give up their addiction. If we can show that very few addicts who didn't participate in the program gave up all addictions, say only 8%, we have some evidence that the program is a significant part of the addicts quitting.

But addicts who don't participate in this program might be in other treatments, or in jail, or at home with family who are trying to get them to stop. A definitive study would be to compare addicts who enter the program to ones who have no treatment, no help at all, and are not forced to refrain from the addiction because they're in prison. But we can't do that because it's unethical to withhold treatment. We can't have a *control group* for comparison that goes for the length of the study.

Nor can we look at all people who quit and note that very few did not participate in the program. No program treats enough people to make such a study possible. That is, we can't do an *uncontrolled effect-to-cause experiment*.

Our only hope for establishing that the link between participating in the program and quitting is somehow causal is to compare addicts who participate in the program to addicts who do not participate and see if more who are in the program quit. This would be an *uncontrolled cause-to-effect study*. The problem with this is to find other addicts who do not participate in the program. Perhaps you could look at people who are in other treatment programs or in jail or prison. But then at most you can compare the rates at which addicts quit their addiction for various programs. But another program may have a different goal, so we'd have an apples-and-oranges comparison. We could try to compare addicts who enter the program with addicts who have no treatment and are not in jail or prison. That's very difficult because the main way to find addicts is to go to programs like needle

exchanges or food kitchens and try to interview them. There's no reason to think those people are representative of all addicts who aren't in the program, and anyway, even providing food is a treatment: perhaps just being healthier and knowing that people care can help an addict quit. You could go up to people on the street who look like addicts and ask them if they are addicts, but besides being dangerous there's no reason to think they're representative of addicts who aren't in the program, for there are lots of addicts who more or less function and have homes and jobs.

There doesn't seem to be any way to do a cause-and-effect study that could reliably show a link between being in the program and quitting all addictions. Yet it sure looks like the program is successful. How can we justify that claim?

We study as best we can other groups of addicts: ones in other treatment programs, however minimal; ones in prisons; ones we can find on the street or elsewhere. If we can say that few of those quit all addictions for six months—we can't say anything useful. It's apples and oranges again.

So we look for other factors that might be significant for leading addicts to quit: previous decision to quit; family support; health; level of education; gender; age; employment; color of hair; number of times the person has been in a treatment program; . . . We look at only addicts who participate in the program. If we have some evidence about how likely it is that someone with a certain level of education is likely to quit; how likely it is that someone who has family support however that is defined—is likely to quit; how likely it is that a man is likely to quit; that a woman is likely to quit; that a transgender person is likely to quit; . . . then we can compare those rates to the rate at which participants in the program quit. We can "factor out" those other possible causes. But this we can't do. We can't find those groups, and even if we can find a lot of addicts for each of those characteristics, there's no reason to think that we can get reliable information from them. Many may refuse to answer or will answer falsely, either exaggerating their drug use to snub their nose at the interviewer or minimizing their drug use to please the interviewer.

All we are left with is the raw number that this percentage of addicts who entered the program quit. We compare that to other programs that are meant to have the same goal. Can we then say that the program that has the best "success rate" is best? No, for

they might start with very different groups of addicts: some may be private treatment programs for only the wealthy; others may deal principally or only with released convicts. And to factor out those differences would require a study of those groups, which we just saw is extremely difficult if not impossible.

Why not run the treatment program with lots of different groups: wealthy, convicts, inmates, . . . . If we get the same result for all of them, then it seems that the program matters. But if we don't, that shows nothing because perhaps the people who run the program treat wealthy people differently from poor convicted felons. Or we could try to run the program with mixed groups of addicts. Then if we get a high percentage quitting, we could say with more confidence that if you take this program, there's that percentage chance that you'll stop quitting. That's about the best that I can see. But though it's said to be the "same" program, all that means is that the person running it has an outline, directions for how to lead the program, and different leaders may do the program very differently. It may be the particular leader who matters more than the program.

It seems that the best we can do is say that if the program is run time and again and the percentage of those who quit is more or less consistently X%, then if you are like the other participants in this program and you participate in the treatment program, there's an X% chance that you'll quit your addiction. We can't do any reliable cause-and-effect study to show that the program is even a factor much less the main factor in getting people to quit. We are inclined to interpret the percentage as indicating a causal link, but we are not justified in doing so.

Yet even this cannot be done, for we don't know what "like the other people in the program" means. That's a generalization. We know what the sample is: the people in the program. But what is the population? To generalize you have to specify the population in advance. Otherwise it's just mining data. The sample isn't representative of any population other than itself, and it certainly wasn't chosen randomly. Yet there is a great tendency to want to use the data to predict. To predict what? Given any group of people who resemble the ones in the program, if they take the program there's an 18.5% chance that they will stop taking all illegal drugs for 6 months? But we're not justified in this. First, what are the relevant factors that determine what the population is. Desire to quit? Height? Weight? Gender? Age? Race? Criminal history? We can't find the population

from the sample. And if we do specify the population in advance, there's no way to ensure that the people in the program are a representative sample. I don't see any way to get a good generalization that could lead to predictions. If we could get a good generalization, then we could use it to establish a cause-in-population claim.

There is much more to do to complete this essay. Published articles that evaluate treatment programs should be examined in the light of the issues raised here. Discussions with people running programs and administrators to see what concerns they have and what standards they use in evaluating programs need to be done.

That is a lot of work, which I cannot do without funding.

My guess is that the conclusion of this essay will be that qualitative rather than quantitative evaluations are what we should be using, along with very careful statements of what we consider to be good or bad goals, methods, etc. That would need to be made clear in what count as suitable or good methods for making such subjective (qualitative) judgments.

I suspect that a review of the literature will show that no personal treatment program will have a substantially greater "success" in getting addicts to quit than doing nothing, since a percentage of addicts quit each year on their own. But this I have to verify. If so, it would seem that the goal of a treatment program should be to help addicts make the decision to quit, supporting them by keeping them healthy, and ensuring that after the program they have support to continue in their goal.

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read at www.AdvancedReasoningForum.org. At that location there is also a draft of a comic book *Addiction in the Body—Too Good Is Just Awful* that Dr. Epstein and Mr. Alex Raffi are writing.