



# The online program that may revolutionize addiction treatment

By Aaron Sankin

Welcoming her son home from rehab was the happiest day of Rose Barbour's life—until it wasn't.

John, a pseudonym used to protect his privacy, was addicted to opiates. The 18-year-old had checked into a seven-day stint at a rehab center near his home on Prince Edward Island, a large rural community off Canada's east coast. He relapsed in two days.

"We didn't know anything about addiction," Barbour recalled. "We thought... just like with any other illness, he'll get the best help out there and get better."

John didn't get better. He repeatedly returned to short-term detox programs, but nothing stuck. The area's methadone clinic had a waiting list stretching months into an uncertain future. Barbour tried to get John into an extended inpatient treatment program, but there wasn't enough space. He was referred to weekly counseling sessions, but they were insufficient given the urgency of his situation. Sitting in a nondescript office, feeling helpless as people dryly explained the decision-making process behind why her son couldn't get the help he needed, Barbour decided to take action.

Her family couldn't be the only one the system was failing. She founded support groups, administered the [Facebook](#) pages of recovery programs, sponsored awareness efforts in local schools, and served on her province's Mental Health and Addictions Advisory Council. "If I didn't speak out, my son was going to die," she told the Kernel. "It wasn't because he didn't want the help; it was because there weren't enough programs available."

Partially as a result of Barbour's agitation, University of Prince Edward Island (UPEI) began looking to address the island's drug treatment deficiencies. Prince Edward Island is a sparsely populated province of about 150,000 residents, mostly spread out in into small, relatively isolated communities. "It's quite a hard population to serve because you're sending a counselor to a population of 100 people, or you're asking people to drive three hours a week to see their counselor," noted Dr. Michelle Patterson, who

led UPEI's effort through the school's Centre for Health and Biotech Management Research.

Treatment centers on the island were seeing an endless parade of the same faces. Patients like John were detoxed and returned to the community, where they would soon relapse. Then the cycle would start over. What Patterson needed was a radical shift—something to not only solve the problems of cost and geography but also help drug addicts kick their habits for good.

Digging through academic literature, Patterson discovered studies showing the efficacy of a Web-based tool developed by Yale psychologist Dr. Kathleen Carroll called Computer Based Training for Cognitive Behavioral Therapy (CBT4CBT). The program, an online system designed to teach people how to reformulate their relationships with abusive substances at a fraction of the cost of traditional face-to-face therapy, was the culmination of a multidecade effort to revolutionize how addiction is treated.

When Barbour heard UPEI was looking into CBT4CBT, she was elated. "In my years of working as an advocate, I've met many people battling addiction. One thing I know for sure, there is no one-size-fits-all solution when it comes to treatment," Barbour wrote in a letter supporting UPEI's adoption of CBT4CBT. "By investing in addiction treatment programs such as CBT4CBT, UPEI... [is] investing in families and communities."

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Barbour's letter worked. UPEI launched a pilot program testing CBT4CBT late last year. However, like with any substitution of a trained human being for a computer program, there's a lingering question: Will it actually work?

One of the first things you realize using CBT4CBT is that Anna is having a rough day.

CBT4CBT is an interconnected network of videos, quizzes, and short text snippets

designed to help addicts make better choices about their substance use. The video kicking off one CBT4CBT program shows a recovering alcoholic named Anna possibly about to make some bad choices.

Anna is on her way home from work when she gets a phone call from her bank saying her account is overdrawn. She arrives to discover her boyfriend not only took out money to buy drugs, but his friends are at the home getting high as well. Anna, understandably angry, yells at Tony, kicks his friends out, and locks herself in her room to cool off. That's when she gets a phone call from a friend inviting her to blow off some steam at a bar for what promises to be a raucous birthday party.

Unlike other therapy methods that work by delving into the subconscious motivations behind behavior, the theory behind cognitive behavioral therapy is that people are creatures of routine. Certain types of experiences act as triggers of drug and alcohol use, which, for people with addiction problems, can spiral out of control. Cognitive behavioral therapy helps people become aware of their personal triggers and steer around them.

In one exercise, CBT4CBT users pick out Anna's triggers. (See Fig 1)

Then CBT4CBT prompts users to identify their own.

(See Fig. 2 and 3)

"Instead of taking the well-worn path toward using, you can get out of the rut by taking a different path that leads you away from drugs," the narrator explains. "Every time you succeed in not getting high, you're setting a different pattern and putting in place healthier habits that will improve your life."

Like any other skill, recognizing triggers improves with practice. Apps like [Duolingo](#) work foreign language muscles; CBT4CBT does the same but for avoiding situations where substance use is potentially too tempting to ignore.

When Dr. Carroll started developing CBT4CBT in the late 1990s, she had already spent years on cognitive behavioral therapy, developing



Fig 1

Click on all of the Triggers you see for Anna

**Triggers:**

1. Financial stress
2. Offers to use drugs
3. Exciting events
4. Arguments/tension
5. Seeing drugs

Show Triggers

training programs and writing manuals for counselors. While studies have shown cognitive behavioral therapy was effective for things like **smoking cessation** and **battling depression**, it wasn't being administered for addiction either as effectively or as frequently as clinical studies would suggest.

"[Cognitive behavioral therapy] takes a fair amount of work on the part of the therapist. There are clinicians out there who do it very well, but on the whole, it's just not being delivered effectively out there at levels of ... [quality] we see in clinical trials," Carroll noted, adding that issues of physical proximity also make it difficult to deliver treatment in remote or rural areas. "It was a no-brainer to computerize it. ... You have a way of providing it with a standard level of quality, in a way that could also be engaging and entertaining for people."

Fig 2

How often in the past 3 months did you use in each of the situations?

	Never	Some of the Time	Most of the Time	All of the Time
When I found drugs in the house?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When I was having a drink or smoking a cigarette?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Being around people who were using?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When someone offered me drugs?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When I couldn't get the idea of using out of my head?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When my problems were too much to deal with?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When I thought I should be able to get high once in awhile?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When I started thinking negatively about everything?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When I was upset with other people?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
On the weekends?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
At the end of the day when I was trying to relax?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When I was really excited about something?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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In the age of dial-up Internet, streaming video wasn't a feasible option—and wouldn't be for at least another decade—so Dr. Carroll worked with the IT guys in the basement of the Yale School of Medicine to hack together the first version of CBT4CBT on a series of DVDs. "There really weren't any models [for what we were doing at the time]," she recalled. "There were a couple things that were called computer-based therapies, but they basically took a manual [and put it onto a computer] and there was a lot of text-based stuff you could read. We were focusing this on cocaine users and marijuana users. They were not going to sit around and read anything."

Fig 3

Select a Trigger below you feel relates to your experiences.

Then, within each of the other columns, click on the Choose buttons to fill in the rest of the grid based on the trigger you have selected.

Triggers What sets me up to drink?	Thoughts and Feelings What was I thinking? What was I feeling?	Behavior What did I do then?	Positive Consequences What positive things happened?	Negative Consequences What negative things happened?
When I was having a good day	<ul style="list-style-type: none"> <li>I deserve to get high and/or celebrate</li> <li>Feeling good, happy, excited</li> </ul>	<ul style="list-style-type: none"> <li>I used drugs</li> <li>I drank alcohol</li> </ul>	<ul style="list-style-type: none"> <li>Forgot about things for awhile</li> <li>Relaxed</li> <li>Felt good and celebrated</li> </ul>	<ul style="list-style-type: none"> <li>Felt out of control</li> <li>Problems still there</li> <li>Felt lousy the next day</li> </ul>

Dr. Carroll spent the next decade developing the program before publishing a pair of studies demonstrating its effectiveness. She **showed that adding CBT4CBT on top of a standard treatment regimen** made subjects about one-third less likely to test positive for drugs during the trial and stay clean for longer periods of time. Another study, completed but not yet published, found that CBT4CBT is as effective as working

through a similar program with a therapist face-to-face—and for a fraction of the cost.

CBT4CBT's potential to replace traditional therapy—not just serve as a value-add—is essential to the program's very survival.

After the results of the initial study showing CBT4CBT's effectiveness were published, Dr. Carroll made the program available for clinical use. In addition to the pilot program at UPEI, CBT4CBT engaged in collaborations with the University of California, Los Angeles; the Native American Pueblo of Zuni in New Mexico; Mercy Hospital in Springfield, Missouri; and the Connecticut Department of Corrections. However, the main obstacle standing in the way of wider adoption is the apparent unwillingness of private insurers, along with government healthcare programs like Medicare and Medicaid, to reimburse patients.

“Largely by tradition, what gets paid for are things that people have been doing forever just because they've been doing them, not because they're effective,” Dr. Carroll sighed. “Those are the things that get insurance reimbursement, so there's a lot of reinforcement to do things that are just awful like detox without follow-up. ... There's a lot of great clinicians and a lot of great places out there, but by and large, most of the treatment that you get is sitting in a group and having some crabby old person yell at you.”

For CBT4CBT to qualify for reimbursement, insurers need to be convinced CBT4CBT can entirely replace a current therapy method. While Dr. Carroll hopes to publish a study showing the program's ability to do so in the near future, substituting human back-and-forth for digital interaction makes some leaders in the field nervous.

“In order to do treatment, you have to do a specific intake assessment. Programs have to be specifically designed in conjunction with the client,” said Dr. Kirk Bowden, president of the Association for Addiction Professionals, noting he hasn't thoroughly studied what CBT4CBT was offering. “You can't just have a canned package of material that's one-size-fits-all.”

Dr. Bowden's concern is that every patient's situation is different. Some need help with cocaine, others with heroin. Some have significant financial resources and supportive

family networks, others don't. Some can easily cordon themselves off in substance-free environments, others can't. Successful treatment plans need to take all of those variables into account.

CBT4CBT's backers insist they're not aiming for an entirely solo package, which is why the program is only being offered through licensed therapists. While someone using CBT4CBT should still meet regularly with a therapist, the program aims to make the need for those check-ins less frequent. Instead of seeing a counselor twice a week, CBT4CBT could reduce the frequency to once a month.

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The goal is to develop new, specially targeted versions for certain demographic groups. There's already a variant exclusively for alcohol abuse, because many alcoholics didn't respond well to being lumped in with other drug users, and another for Spanish speakers, with videos created in telenovela style. If insurance reimbursement starts bringing in more funds, the plan is to produce a slate of new iterations, including one aimed at indigenous groups in the United States and Canada.

A degree of standardization, however, is part of the appeal. Dr. Carroll created CBT4CBT as a way to get rid of variations in the way the therapy was given. While the accoutrements may vary, the core of the program, teaching people how to recognize triggers and manage cravings, will stay the same.

Whether the introduction of CBT4CBT will help improve Prince Edward Island's problems remains to be seen, of course. Dr. Patterson launched the approximately 18-month pilot

in November of last year. She hopes to have it completed by sometime in 2017, but that end date could be delayed if uptake is slower than expected. The goal is to give some people CBT4CBT in addition to their treatment-as-usual and see if there's any significant difference in outcome.

“CBT4CBT simply is not a cure-all. This is not going to be a program that's going to work on everyone and solely work on everyone,” Dr. Patterson said. “This is a tool for learning the basics, learning how to cope and how to deal with cravings, and how to find the right people and to avoid the wrong people.”

Hopefully, she noted, it'll help take some of the stress off counselors by replacing some, but not all, face-to-face sessions while allowing individuals to get better quicker.

Barbour is excited to see how CBT4CBT will give people like her son more options for treatment. John has been clean for two years now. His mother credits his recovery on the expanded resources that came after she, and many others, lobbied the authorities for more addiction support. A government investment in the local methadone program gave him access to lifesaving medicine, and a youth recovery center, started by a trio of moms fed up with the area's limited options and partially funded by the province, accepted John into its first class, giving him the safe space he needed to get healthy. CBT4CBT could be a valuable addition to the area's offerings.

When fully up and running, the UPEI pilot program will be active at four sites across the island. One of them, the Provincial Addictions Treatment Facility, carries a special significance for Barbour. It's the detox center where John first went for treatment, the place that lacked the treatment options he so desperately needed when he first tried to get help.

“People need choices in recovery programs. They need choices for treatment, like CBT4CBT,” Barbour said. “I'm all about giving people options because I've known too many people who have died from addiction because they couldn't find what worked for them.”

*Illustration by Jason Reed*