

# NSSS ADVOCACY BULLETIN

November 2017

*“The truth is, I don’t really mind the voices—I’ve learned to deal with them. Now if I could get my head straight and concentrate, I might be able to actually get what I want out of life—a job, a girl, a house. (I think that’s the right order)”.* Patient

On October 17, 2017, thanks in large to the work of Susan Inman, author and family advocate, the British Columbia Schizophrenia Society hosted a conference on cognitive remediation. The conference was well attended, almost to capacity, consisting of health care professionals and a large number of family members.

The first speaker was Dr. Christopher R. Bowie of Queens University. Dr. Bowie is a clinical psychologist and Professor in the departments of psychology and psychiatry at Queen’s University. He primarily studies neuro cognition and functional disability in severe mental disorders like schizophrenia and mood disorders such as depression and bipolar disorder. Neurocognition refers to the functions of the brain that allow us to perceive and process information and guide our actions. When we talk about attention, memory and problem solving, we are referring to neurocognitive functions. Functional disability refers to difficulties performing in areas of life such as academics, working, living independently, and socializing with others. (taken from Queens U. bio) Dr. Bowie suggests that impaired cognitive functioning in schizophrenia predates the first psychotic episode. The cognitive deficits are already present at the onset of psychosis.

Even more than the positive symptoms (i.e. hallucinations, hearing voices) and negative symptoms (i.e. loss of motivation) of mental illness,

cognitive deficits can impair daily functioning and are a major factor in chronic disability and unemployment. If we can improve cognition then we will improve all aspects of life: work, recreation, relationships and self-care.

Cognitive deficits include: processing speed; attention; memory/learning; executive functioning such as organizing, prioritizing, problem solving, and the ability to modulate and regulate cognitive processes; and emotional processing.

**Cognitive remediation (CR) is an evidence based type of rehabilitation treatment offering brain exercises with an aim at improving cognitive processes.**

Its primary methods are drill and practice. CR can be done using computer based programs. These programs consist of repetitive practice sessions, some of which can actually be fun like computer games. A popular website called “Lumosity” is an example of the types of exercises used. Once mastery of a skill over time is accomplished, then the level of difficulty can be increased. Changes in actual brain functioning can be noted on brain scans. Cognitive activation through drill practice and repetitive exercises can lead to brain retraining due to the neuroplasticity of the brain.

CR main goal is to help improve functioning in daily tasks. It is most effective when clients are paired with strategy coaches or therapists who help the client develop ways to compensate or work around limitations. In one study with subjects doing 40 hours of CR training over 8 weeks, working on their own, they found significant

improvements in cognition. Unfortunately there was not a significant effect in improvement in life skills functioning. However when paired with a therapist, the increase in cognition was generalized to enhancements in life skills. For example, repetitive tasks working on processing speed should help the client be able to understand instructions given to them at work more quickly. The best model so far is to work side by side with a therapist who helps the client to identify effective strategies they are using, develop new strategies and prune ineffective ones. CR can help people develop better strategies for solving the complex problems they encounter every day in going from one place to another, when shopping, or attending school or at work.

Although most of the exercises are computer based, other mediums can be used as well. For example, one exercise called “Brain of Thrones” was similar to a board game. It consisted of a plan of an amusement park. Each ride was rated in terms of cost and thrill level. If the patient was working on planning, his task could be to plan a day that is thrilling. This activity would be repeated many times. A more advanced level would be to plan a day that is thrilling and cost effective. Ideally the client would be working with a therapist beside him who observes the processes and strategies involved in making decisions. Then when focusing on real life tasks such as applying for jobs, the patient would be able to use the strategies developed from his practice activities.

The second speaker was Dr. Alice Medalia. She is a Professor and Director of Psychiatric Rehabilitations Services in the Department of Psychiatry at Columbia University Medical Center and Clinical Director of

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Cognitive Health Services for the New York State Office of Mental Health. Dr. Medalia has been instrumental in raising awareness about the need to address cognition as a central aspect of mental health related to functional outcome. The focus of her talk was how to make cognitive health services a part of mental health care. Since she is credited with having cognitive remediation accepted as a viable form of treatment in New York State, she had a lot to offer on the topic.

According to Dr. Medalia, the treatment of mental illness should occur at the physical (includes diet, meds), the emotional and cognitive levels. To date, cognitive health has been largely ignored in treatment plans. This is unfortunate because cognitive health (CH) allows for the maintaining of connectivity to others, provides an ongoing sense of purpose and allows independent functioning and better recovery from illness. For example in major depressive disorder the focus has been on medication and treating the emotions. Since cognitive processes such as attention, memory, processing speeds, and problem solving are impaired by depression it is essential to address these. By not focussing on CH as well, it makes it harder for patients to return to work or school and be successful.

**Cognitive remediation is the best practice for improving cognitive health in affective disorders such as bipolar and major depression (Bowie et al, 2013) and schizoaffective disorder (Wykes et al, 2011). The outcomes of patients receiving CR in the New York health district are as follows: 100% of patients engaged in CR reported it as a positive experience, 70% experienced improved cognition and 40% had improved functioning.**

In order to be effective cognitive remediation must be linked to every day functioning and achieving real life goals. Dr. Medalia refers to this as CR2PR (Cognitive Remediation to Promote Recovery).

Dr. Medalia outlines the flow of the treatment as follows. Initially a staff member would refer a patient to cognitive remediation. This referral could come from a caseworker or a psychiatrist, etc. The client is assessed and a report of his cognitive needs is done. The cognitive needs assessment is then linked to recovery and rehabilitation goals. The patient is then set up with a program of computer based exercises linked to the rehab goals. The sessions run for two weeks at 30 hours per week. The patient works with a therapist and is part of a Bridging Group. The group gets together and discusses the activities and their relationship to their life goals. The therapists assess the patients` progress towards their treatment goals and determine how the treatment is progressing and when it is not working.

In order for the CR sessions to work they must be structured to enhance motivation. The clients must also be able to experience success and do tasks they value. They do well when their autonomy is supported. Also it is important that clients support each other in order to promote connection and community. In the CR2PR model, goals are different for each individual and there are different exercises for different people. The tasks must not be too hard neither should they be too easy. CR is also effective when combined with other therapies aimed at promoting recovery goals.

Here is a list of some of the web based programs that are being used in CR: Lumosity, Brain Training PRO, HappyNeuron PRO and BrainHQ by Posit Science. Feel free to check them out online. Most of these programs were developed for the general public and are not specific to persons with mental illness. However these web based programs do have exercises that target specific neurocognitive functions, such as memory, processing speed and executive functions such as planning, prioritizing and organizing.

Cognitive remediation is an evidence based practice which should be available in the health care system in BC but it is not. Also there are no medications that treat the cognitive impairments in mental illness so it is essential that this service be provided.

If implemented, this type of therapy would cut psychiatric services considerably. In order for CR to be implemented in BC it would require leadership and vision and champions within the Ministry of Health Authority. **Fortunately, Gerrit van der Leer, the Mental Health Director of the new Mental Health and Substance Use ministry was present at the conference and has CR on his to do list.** There are also organizations working on a Position Paper and Business Case to present to the government. Hopefully, in the not so distant future cognitive remediation will be a standard treatment for those seeking to improve their neurocognitive functions and to enhance their day to day functioning.

*Cindy Beatch, Family-to-Family teacher, parent and member of NSSS.*